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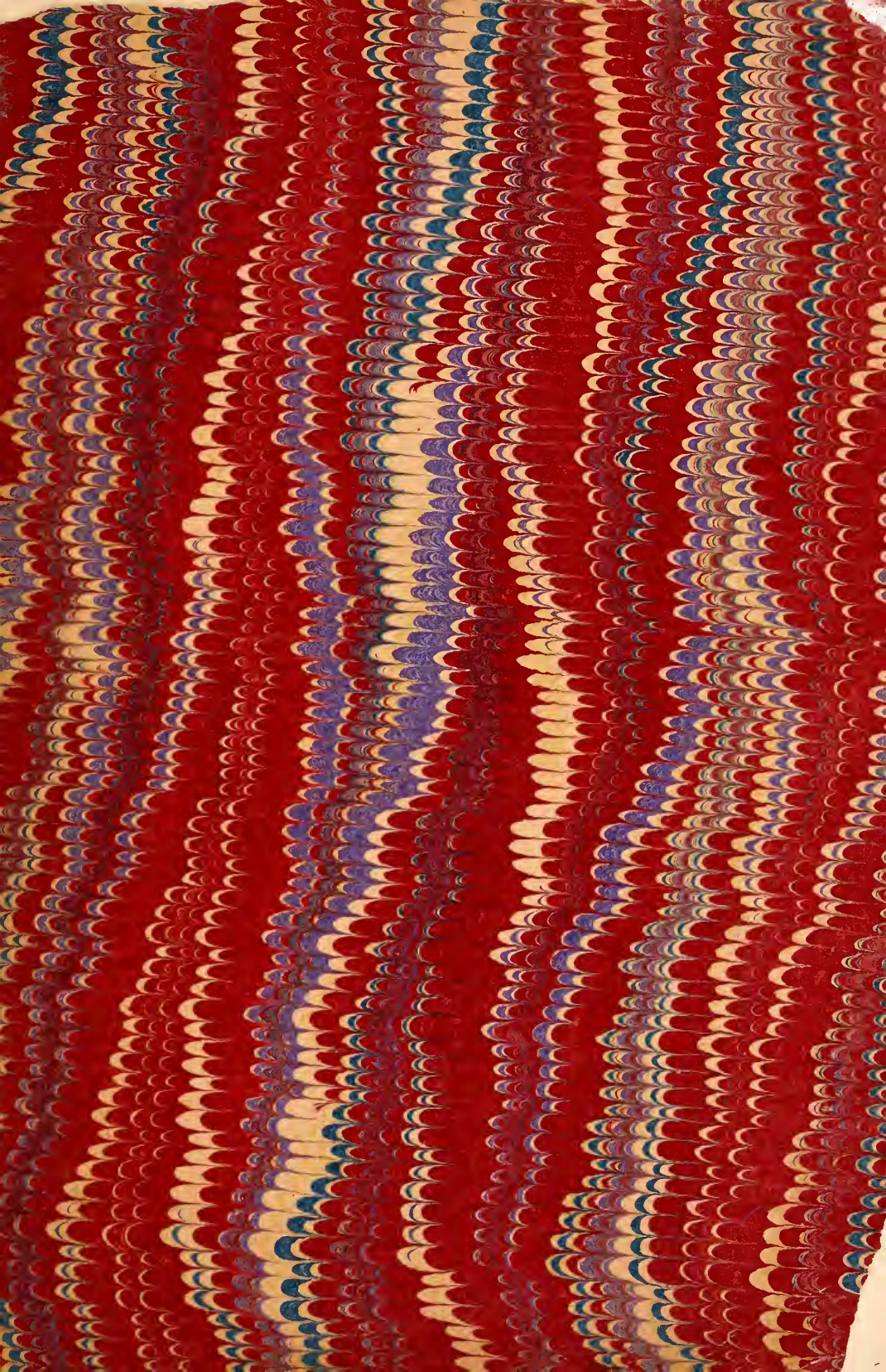
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CLINICAL HISTORY

... OF THE CASE OF ...

PRESIDENT JAMES ABRAM GARFIELD

BY ROBERT REYBURN, A.M., M.D.

PROFESSOR OF PHYSIOLOGY AND CLINICAL SURGERY MEDICAL DEPARTMENT HOWARD UNIVERSITY, WASHINGTON, D. C., AND ONE OF THE ATTENDING SURGEONS IN THE CASE OF PRESIDENT GARFIELD.



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Clinical History of the Case of President
James Abram Garfield.

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PREFACE.

THE compiler of the following pages has had two motives in view in their preparation. The first of these was to leave behind him some memorial of his share in one of the most pitiful tragedies of the nineteenth century (as he is the sole survivor of the six physicians who attended PRESIDENT GARFIELD). The other, and still stronger motive, was to endeavor to do some justice to the memory of his firm and steadfast friend, the late DR. D. W. BLISS. It is the common lot of physicians to sacrifice their comfort, health, and even their lives for the welfare of their patients, and DR. BLISS showed these characteristics of the true physician in a marked degree during his care of the President. In performing that duty he sacrificed a most lucrative private practice, permanently injured his health and shortened his life, and as a reward for these labors was treated with a depth of ingratitude, that perhaps may be equalled, but certainly has never been exceeded in modern history.

The notes of the President's case were all written by the undersigned in a book procured for the purpose. After the death of the President, the records were given by the writer to DR. BLISS (at his request) for publication. Owing to the failing health of DR. BLISS this was never done, and the book only came into the writer's possession in the month of June, 1892. This statement will explain why the publication has been so long delayed. Liberal use has been made in these pages of the following articles written by DR. BLISS, viz.: *Medical Record* (New York) Oct. 8, 1881, p. 393. *Ibid*, July 15, 1882, and one in the *Century* magazine for December, 1881, p. 298. But little use has been made of other authorities, but where they have been used it has been intended to give them credit. My thanks are due to DR. D. S. LAMB of the Surgeon-General's office for the photographs of the vertebræ of PRESIDENT GARFIELD, reproduced in this volume.

ROBERT REYBURN, A.M., M.D.



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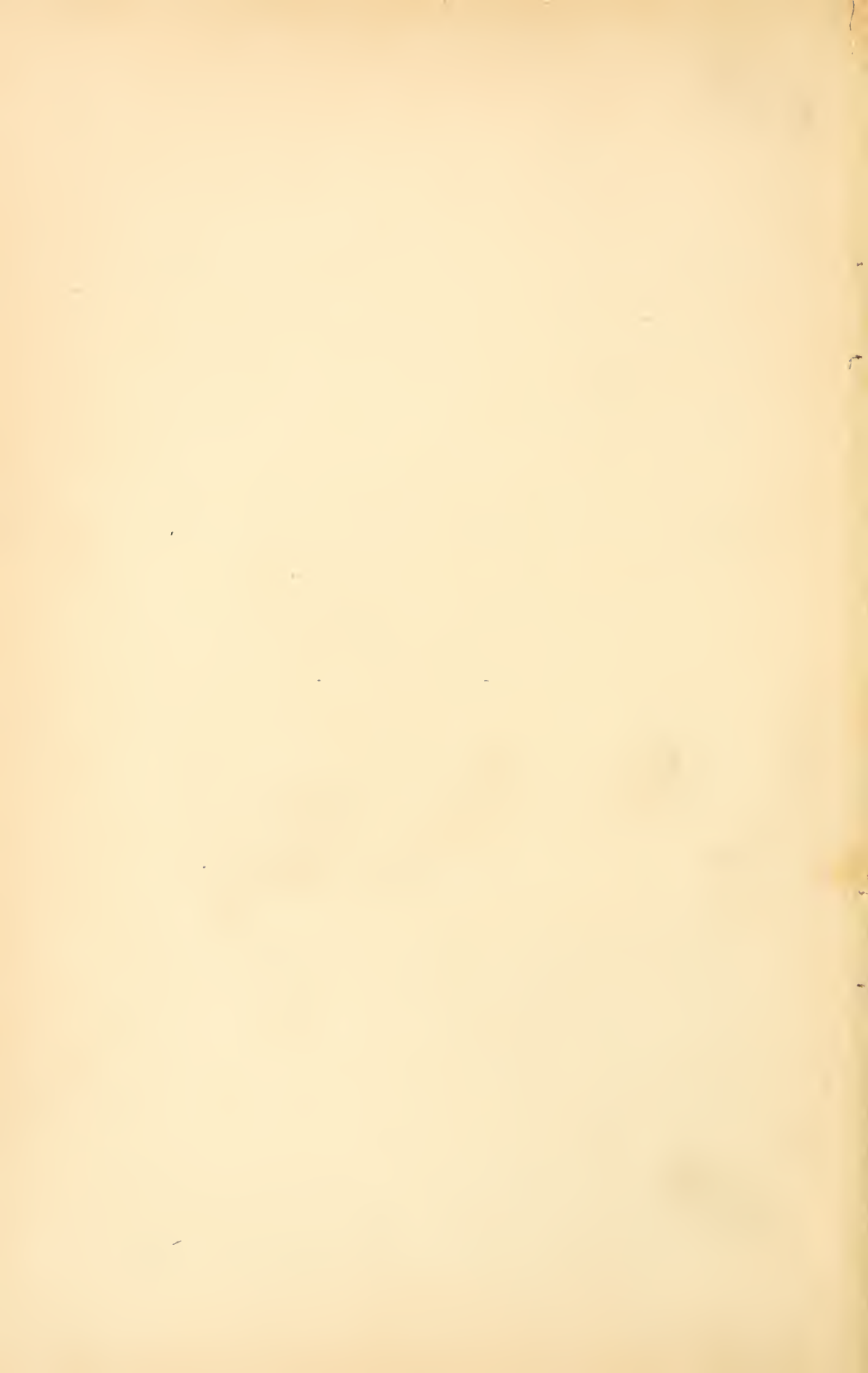
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CHAPTER I.

DESCRIPTION OF THE ASSASSINATION OF PRESIDENT GARFIELD—COLLAPSE AND SHOCK FROM INTERNAL HEMORRHAGE.

On the morning of July 2, 1881, President Garfield accompanied by Secretary Blaine drove up to the B Street entrance of the Baltimore and Potomac depot, Washington, D. C., intending with a party composed of members of his family, Cabinet and personal friends, to take a pleasure trip through the New England States. At 9:30 A.M. President Garfield and Secretary Blaine were walking across the ladies' reception room on their way to take the train, when a pistol shot was heard, which was immediately followed by a second report. There was a rush of those who were present to the reception room, where the President was found lying on the floor with blood streaming from two wounds, one a slight flesh wound of the right arm, and one of the right side of the body. The President turned at the first shot, and fell on his knees at receiving the second shot. The first ball from the assassin's revolver struck the upper portion of the right arm inflicting a slight flesh wound. The second bullet entered the right side of the back, four inches to the right of the spinal column, and on a level with the twelfth, or lowest of the dorsal vertebræ, and passing at first forwards, fractured the eleventh and twelfth ribs, then being deflected to the left, passed through the body of the first lumbar vertebra in an oblique direction to the left, and emerging thence, passed behind and below the pancreas, where it was found at the postmortem examination. The second ball in its course penetrated some of the branches of the mesenteric arteries and grazed the splenic artery.

The President was laid upon the floor until a mattress could be procured, and he was at once removed to a room in the second story of the depot; when he turned deathly pale, and soon after he was carried up stairs he vomited. The assassin attempted to run out of the Sixth Street door of the depot, but for some reason turned back and was arrested by Officers Scott and Kearney. The President's eldest son was with him at the time he was shot, as well as Secretaries Blaine, Hunt and Lincoln, and Postmaster General James.

Dr. Smith Townshend, the District Health Officer was the first physician who came to the assistance of the President. He arrived about four minutes after the shooting, and states that he found him lying upon the floor of the depot, surrounded by an immense throng of people. He was in a fainting condition, and apparently dying. Dr. Townshend administered a stimulant, and by his orders he was removed upstairs. Immediately after this Drs. Purvis and Bliss arrived at the depot.

Secretary Blaine came out of the reception room following a man, and calling, "Rockwell! Rockwell! Where is Rockwell?" The man was seized by Officer Kearney, and Mr. Parks, the depot policeman, and proved to be Charles J. Guiteau.

Secretary Blaine was not going with the party, but came down to bid the President good-by. He said: "The President and I were walking arm in arm toward the train. I heard two shots, and saw a man run. I started after him, but seeing he was caught just as he got out of the room, I came to the President, and found him lying upon the floor. The floor was covered with the President's blood." The weapon used by the assassin was a five chambered revolver of the English bulldog pattern, with an ivory handle, and was about seven inches long. This is a weapon of strong propulsive power, and experiments made with a similar weapon during Guiteau's trial showed that it had power enough to penetrate a two

inch plank at a distance of one hundred feet. When arrested Guiteau said: "I did it, and want to be arrested. I am a stalwart and Arthur is President now. I have a letter here I want you to give to General Sherman; it will explain everything. Take me to the police station."

Officers were sent to the police headquarters, by order of those around the President, to get the name of the assassin. He very willingly wrote his name and address on a sheet of paper, as follows:

"CHARLES GUTEAU,
ATTORNEY-AT-LAW,
CHICAGO, ILL."

The following letter was taken from the prisoner's pocket at police headquarters, showing conclusively the intention to kill the President:

July 2, 1882.

To the White House:

The President's tragic death was a sad necessity, but it will unite the Republican party and save the Republic. Life is a flimsy dream, and it matters little when one goes. A human life is of small value. During the war thousands of brave boys went down without a tear. I presume the President was a Christian, and that he will be happier in Paradise than here. It will be no worse for Mrs. Garfield, dear soul, to part with her husband this way than by natural death. He is liable to go at any time, anyway. I had no ill-will towards the President. His death was a political necessity. I am a lawyer, a theologian and a politician. I am a stalwart of the stalwarts. I was with General Grant and the rest of our men in New York during the canvass. I have some papers for the press which I shall leave with Byron Andrews and his co-journalists at 1420 New York Avenue, where all the reporters can see them. I am going to the jail.

CHARLES GUTEAU.

On the morning of July 2, 1881, at about 9:45 A.M. whilst in my office, I was suddenly summoned by a messenger from Dr. D. W. Bliss, who informed me that President Garfield had been shot by an assassin, at the Baltimore and Potomac depot, and requesting my immediate assistance. At first I refused to go, being incredulous, but after a few moments' consid-

eration, I deemed it advisable to go and see for myself if there was any truth in the story, and drove rapidly in the direction of the depot. I was soon certain that something terrible had just happened. From all directions I could see people hastening towards the depot as to a common center. Hastening up stairs on my arrival I saw President Garfield lying on a mattress, which had been hastily procured for him, and which had been placed on the floor of a room in the second story of the depot. He was lying in the northeast corner of the room when I first saw him. I asked him, "Mr. President, are you badly hurt?" He answered: "I am afraid I am." The President was deathly pale, almost pulseless and apparently dying from internal hemorrhage. Dr. Bliss was present, surrounded by a number of physicians, and was evidently recognized by all who were there as in full charge of the case. The following account of the condition of the President, when first seen by Dr. Bliss is a verbatim copy of his statement made to me at the time, and immediately recorded by me in the note book of the case: "I recognized a very feeble pulse of about forty beats per minute, and a marked pallor of the face; skin cold and covered with a clammy perspiration. There was sighing respiration which was slow, being about twelve to fourteen per minute. The lines of expression of the face were changed, and evidences of his having recently vomited were apparent. I then learned from Dr. Smith Townshend who had preceded me, that he had administered one ounce of brandy and one drachm of aromatic spirits of ammonia to the President. I then proceeded to examine the wound, and carefully introducing my little finger detected fractured portion of the eleventh rib and determined that the ball had passed forwards and slightly downwards into the abdominal cavity. I found a clean cut wound four inches to the right of spinous process of twelfth dorsal vertebra, between the eleventh and twelfth ribs. After withdrawing

my finger, I introduced a Nélaton probe with great caution to the extent of three inches, where its progress was arrested by the soft tissues. Deeming it hazardous to make any forcible exploration I desisted, and then informed the medical gentlemen who were present that I deemed it unwise to make any further examination. I then asked the physicians who were present to retire to one of the corners of the room for consultation (there being no other available place) respecting the propriety of removing the President to the White House, and whether or no more stimulants should be given. It was then thought best on account of his weak condition to give him another half ounce of brandy."

The physicians present at this consultation were Drs. D. W. Bliss, Smith Townshend, N. S. Lincoln, Basil Norris, P. S. Wales, John B. Hamilton, C. M. Ford, D. C. Patterson, C. B. Purvis and Robert Reyeburn. The President repeatedly and urgently requested that he should be removed to the White House. After the examination of the wound the President inquired as to the gravity of his injury; Dr. Bliss replied to him that it was quite impossible to give a definite opinion at this stage, disguising his own fears as to the gravity of the case. The President complained very much of a sense of weight and heaviness in his lower extremities. After a few minutes he said he had a sensation of tingling in his feet, and very soon these sensations changed to severe and distressing pains in the lower extremities. Half an hour after the injury the President's pulse was fifty to the minute, and though feeble was more full. After the consultation it was deemed expedient to remove the President to the White House and the ambulance was ordered for that purpose. I think I can see now the sea of human faces that completely filled the space in and around the depot, as we carried him down the stairs, and through the depot, with the mingled expressions of pity and consternation that sat upon each of them. The President was tenderly

and carefully taken up by eight men and carried on the mattress to the ambulance, and was slowly driven to the White House. Dr. Bliss and Dr. Townshend accompanying the President in the ambulance.

At the time of his removal, 10:30 A.M., he complained of pains in his feet and legs, pulse 60 to 65. At 11 A.M. pulse 74 with more character; patient slightly restless, was offered water which he took with half an ounce of brandy. After arriving at the White House he received a hypodermatic injection of one-quarter of a grain of sulphate of morphia, and one ninety-sixth of a grain of sulphate of atropia. At 12 A.M. pulse 94, soft and compressible; he complains of spasmodic pains in the extremities, which he describes as shooting up the legs towards the body. These pains became very severe. There is a considerable hemorrhage which has taken place from the wound since his arrival at the White House, and there is probably also internal hemorrhage taking place. At 12:30 P.M. pulse 88, no material change except interruption of pulse; 12:45 P.M. patient vomited and on recovering himself said: "Well, Doctor, I suppose that was the result of your hypodermic." At 1 P.M. pulse 100 and very feeble, sighing respiration but complains less of pain in the extremities, has pains in the right hip. At 1:30 P.M. patient is restless, has had nausea and has vomited twice; complains of constant pain in the feet, surface cool, temperature 96.8, respiration 30 to the minute. The pulse and respiration are increasing in frequency, whilst the temperature is falling; an ominous sign.

At 1:40 P.M. pulse 124 and feeble. Pain in the extremities continues about the same; patient gives evidence of extreme prostration; 2:15 P.M. pulse 124 and a trifle better in character; respiration 32 per minute; complains much of pain in the lower extremities. After consultation one-quarter of a grain of sulphate of morphia was given hypodermatically; 2:45 P.M. pulse 116 and a trifle more full; respiration 38 per minute; has less pain and feels more like

sleeping; is thirsty and asks if it will injure him to take water freely. At 3:40 P.M. pulse 130, pains in the feet more severe. After consultation it was decided to give another quarter of a grain of morphia hypodermatically. At 4:15 P.M. pulse 128; respiration 30 per minute. Seems easier since receiving the hypodermatic injection; but has just vomited freely a watery fluid. Percussion reveals a marked and well-defined dullness in the right hypochondriac region, (below lower margin of the liver).

The President has just made inquiry of Dr. Bliss concerning his real condition, which was explained to him and he took the announcement of his dangerous condition quietly and calmly. At 4:40 P.M. complains of pains in both feet and ankles, but is otherwise comfortable; 5:30 P.M. pulse 140 and respirations 28 per minute. The President has just vomited; is free from pain, but has a sensation of numbness in his hands and arms and wants them rubbed. The respiration is abdominal in character, and is more full on the right side than on the left; 6:30 P.M. pulse 150 and respirations 28 per minute; occasional sighing respiration. The President is cheerful and inclined to talk to his family and friends.

COMMENTARY ON THE STATE OF THE PRESIDENT.

In spite of the cheerful condition of the spirits of our patient as mentioned above, our prognosis of his case at this time was of the most discouraging character. He was evidently bleeding internally, and unless reaction would soon take place, it was evidently impossible that he could long survive. Mrs. Garfield was absent at Elberon, N. J. She had been telegraphed for, and was coming as fast as the express train could bring her to Washington, and yet we had grave and well-founded fears that he would die before her arrival.

Our patient lay on the wounded side to facilitate drainage from the wound. He had a sighing respiration, a feeble and scarcely perceptible pulse; the

lines of the face hippocratic in character; frequent movements of the lower limbs, with regurgitations from the stomach. Our anxieties increased with each hour. No indications of reaction could be discovered even by the most sanguine. We measured the time with beating hearts, hoping that the illustrious sufferer might again see the face he loved so well. The President several times made inquiry as to the cause of Mrs. Garfield's delay, and, appreciating the gravity of his injury, was extremely anxious lest she should be too late for an intelligent interview. Upon her arrival, at 6:40 P.M., he requested that their interview should be entirely private. Thus the prostrate and apparently dying husband met his wife. She remained by his side not more than five minutes. The words of love, hope and cheer given him are known only to themselves and to God. It is a fact, however, that within an hour the President's symptoms began to indicate reaction.

The President rarely spoke of his condition, seldom expressed a want, and only once, in my hearing, referred to the circumstance of his shooting. He asked the Secretary of State, in the afternoon, the name of the assassin. On being told, he said: "Why should he have wished to shoot me?" It was explained that he had probably been disappointed in seeking some office.

Commentary continued from 8:30 P.M. July 2, to morning of July 4. The favorable reaction that took place in the condition of the President at 8:30 P.M. July 2, gave a relief to the feelings of the attending surgeons that may be imagined, but scarcely be adequately described. The hemorrhage from the splenic artery, and which was probably also due to injuries received from the bullet by the mesenteric arteries was spontaneously arrested, just as our patient was on the brink of death. This favorable condition of our patient continued during the night, and on the morning of July 3 his temperature was 98.6 (normal); pulse 126; respirations 18 per minute. Drs. Bliss and

Reyburn remained on duty all the night of July 2 and 3. Colonel Rockwell, General Swain, several members of the Cabinet, Miss Edson and Steward Crump were also at hand to render any needed aid. The President enjoyed, upon the whole, considerable refreshing sleep, broken about every half hour by regurgitation of the contents of the stomach. The morning of July 3 found him comparatively cheerful and hopeful, and with a full appreciation of his surroundings. At this time he inquired of me what his chances of recovery were, saying, in his bright and cheerful way, that he desired a frank and full statement—that he was prepared to die, and feared not to learn the worst. He added that personally he was willing to lay down the heavy burden thrust upon him. I replied:

“Mr. President, your injury is formidable. In my judgment, you have a chance for recovery.”

He placed his hand upon my arm, and, turning his face more fully toward me, said, with a cheerful smile:

“Well, Doctor, we’ll take that chance.”

It was perfectly apparent that there were more physicians in attendance upon the President than were needed, and Dr. Bliss determined to ascertain the President’s wishes in the matter. On the morning of July 3 after the morning consultation and dressing of the wound, Dr. Bliss went to the President and said: “Mr. President, there are a number of the physicians of the city who have kindly volunteered their services and have been associated with me in conducting your case successfully through the day and night since your injury, and have contributed largely to the prospects of your recovery. Now that Mrs. Garfield has arrived and you are so comfortable, we wish to retire from the case and ask you to select your permanent surgeon and his counsel.” The President replied:

“I wish you to retain charge of my case, and select such counsel as you may think best. Your judgment

is better than mine on that subject." Dr. Bliss then said that if it was agreeable to the President and Mrs. Garfield, he would select Surgeon-General Barnes, U. S. A., Surgeon Woodward, U. S. A., and Dr. Robert Reyburn as his counsel, giving his reasons in each case for making the selection. The President replied:

"Doctor, your selection is eminently satisfactory."

Dr. Bliss then requested permission to thank the medical gentlemen in the name of the President and Mrs. Garfield, which was accordingly done. As many statements have been maliciously made to the effect that Dr. Bliss in assuming the charge of the President did so without due authorization, I herewith submit the following documentary evidence which will settle the point beyond question. Before me lies an official copy of the affidavit made by the Honorable Robert T. Lincoln, Secretary of War, and dated, War Department, Washington, D. C., May 23, 1882, and from which the following is an extract: "When the President was shot my carriage was at the door of the railway station, and within a few seconds I hurried it off to bring you (Dr. Bliss)." Farther on in the same affidavit the Secretary again says: "You (Dr. Bliss) at once took charge of the President, acting with the other surgeons who came quickly to his help."

CHAPTER II.

PERIOD FROM JULY 2 TO JULY 23, 1881. REACTION— FIRST RIGOR WITH WELL-MARKED SYMPTOMS OF SEPTICEMIA ON JULY 23, 1881.

The duties of the attending surgeons were at this time systematically divided among them as follows: Dr. Bliss as chief surgeon in charge of the case remained on continuous duty every night at the White House, from the time the President was shot until he was taken to Elberon, N. J., and he continued his vigils there until the death of the President. During a long and varied professional career, I have known many instances of the self-sacrificing devotion of physicians to their patients, but I have never known such complete self-abnegation as was manifested by Dr. Bliss in his care of the President. He seemed to neither think nor speak of anything, except what concerned the welfare of his illustrious patient. All the medicine and all the articles of diet were either administered by him or under his immediate direction. Surgeon-General Barnes came twice a day in consultation with the other surgeons. To Dr. J. J. Woodward was intrusted the duty of preparing and writing the daily bulletins of the case, and along with Dr. Robert Reyburn assisted in taking the temperature, pulse and respiration, which was done at least three times a day. This naturally became after a while rather wearisome to the President. On my coming into the room one day he smiled, and said: "Here comes old temperature again." To Dr. Reyburn was assigned the duty of taking notes of the case, which were written each day by him in a book procured for the purpose. Drs. Woodward and Reyburn slept each night alternately

in the White House, and were always on hand to furnish such assistance as might be required. The nursing of the President was done by Colonel Rockwell, General Swaim, Dr. Boynton, Dr. (Miss) Edson, Steward Crump, and the faithful body servant of President Garfield. These all rendered faithful and meritorious services, and their devotion to the President deserves the highest praise. Mr. J. Stanley Brown, Private Secretary to the President was on almost continuous duty during the President's illness, and gave all the aid in his power. The labor of nursing the President, I may here remark, was much more severe than it would seem to be. In the first place, during a large part of the President's illness it was impossible for him to turn in bed, or even to bend his spine. In order, therefore, to promote his comfort and prevent bedsores, it was necessary to turn him, or to change his position in the bed very many times during the twenty-four hours—this would sometimes reach fifty, sixty or even one hundred times a day. Strong linen sheets were kept under him for the purpose of moving him. When he required a change of position, three persons, either doctors or nurses (as they happened to be in the room at the time) came on each side of the bed, and taking hold of the sheets gently rolled him over to the side he wished to go. For the same reason every passage of his bowels and urine required the same attendance bestowed upon a young infant. The President was a man of large and massive frame (he was over six feet in height and weighed two hundred pounds the day before he was shot), so it will be readily understood that the physical labor devolving upon his nurses and medical attendants was quite severe. Until the President was removed to Elberon, N. J., the medical bulletins of his case were prepared in conjunction with the other attending surgeons exclusively by Dr. Woodward and myself. Mentioning this fact recalls the many harsh criticisms which were made concerning the roseate

statements which the bulletins gave of the President's condition. These bulletins were often the subject of animated and sometimes heated discussion between Dr. Bliss and the other attending surgeons, the surgeons usually taking one side of the question and Dr. Bliss the other. The ground taken by Dr. Bliss was that in the President's case it was vitally necessary to keep from him every unfavorable symptom, for by so doing we gave him his only desperate chance of recovery. It must be remembered that during almost all of his illness he was able to have the newspapers read to him, and he always asked for them every morning. If the slightest unfavorable symptom was mentioned in one of the bulletins, it was instantly telegraphed all over the country, and appeared in every newspaper the next morning. In fact, during the early part of the case he very often read the newspapers himself. We were placed in a very embarrassing position; on the one hand we did not wish to dishearten our patient by circulating discouraging reports of his condition, and on the other hand we wished to do our duty to ourselves and to the people of the whole country, who watched with such intense eagerness every word of intelligence that came from us.

During the early part of the day of July 3 the President's temperature remained about normal; towards evening a slight rise in temperature took place, reaching 100 at 10:30 P.M. He slept a good deal during the night of July 2-3, and in the morning took with relish equal parts of milk and lime water. He complained often during the day of severe pains of a lancinating character in the scrotum, both feet and ankles; he complained also of sensations of pricking and numbness in the same members. These symptoms were no doubt due to the concussion of the spinal cord produced during the passing of the bullet through the body of the fourth lumbar vertebra. So marked were these symptoms for the first few days after he was wounded, that it was

feared that the spinal cord itself might have been injured. Of course the after history of the case (from the gradual disappearance of these symptoms) showed that such could not have been the case. Applications of cloths wrung out of hot water not relieving him entirely, he was given a hypodermatic injection of one-quarter of a grain of sulphate of morphia. He seemed cheerful and full of hope and amused himself by telling us a laughable incident of his early life. Slight tympanites was detected during the day, but no pain on pressure, nor any marked rigidity of the abdominal walls. This was the only symptom that pointed to the existence of peritonitis during the whole history of the case. During the night of July 3-4 the patient dozed at intervals. When awake he complained so much of the pains in his feet that he was given another quarter of a grain of sulphate of morphia hypodermatically; 7:30 A.M., he has vomited at intervals of twenty minutes during the past two hours. Gave one-half ounce of milk and lime water every hour, with powders of four grains of subnitrate of bismuth, two grains of oxalate of cerium in each one; to be given when required. Surgeons Dr. D. Hayes Agnew of Philadelphia, and Dr. Frank Hamilton of New York, having been summoned in consultation, arrived this morning. Dr. Agnew arrived at 4:30 A.M., and saw the President, but postponed the examination of the wound until the arrival of Dr. Hamilton at six o'clock. They were formally presented to the President and we held our consultation at 7:30 A.M. On dressing the wound there was found to be a very slight discharge from it, and scarcely any swelling or inflammation around the track of the wound. A careful review of the case was given to the consulting surgeons by Dr. Bliss, with the request that they should, with the data before them, examine the case thoroughly, as though it was their own, and freely express their views concerning the character and gravity of the injuries, and the course of treatment

up to that time. He also gave them a detailed account of the explorations made in the wound, and the unsettled opinions as then held as to the course of the missile, and the organs involved in the injury. Carefully weighing all the evidence, the more prominent symptoms upon which the diagnosis was made were presented in the following order: The relative position of the assassin to the President at the time of the shooting, the direction of the bullet through the tissues as far as it could be determined, the amelioration of pain and hyperesthesia in the feet and ankles and scrotum, the repeated unsuccessful efforts to pass a probe or flexible instrument more than half an inch in any direction beyond the fractured rib, except in a direction downward, a little forward and anterior to the twelfth rib, where it could be passed about two inches. Neither the significance of the profound shock was underestimated, nor the lengthened period of collapse which followed, and which seemed to point to extensive lesions of important viscera. However, the fact that the kidneys, intestine and peritoneum had not been seriously injured, was shown by the passage of normal urine, the spontaneous movements from the bowels of natural feces, the discharge of flatus, and the absence of other symptoms of peritonitis. It was found to be impossible to determine positively the course taken by the bullet, but the indications pointed to a downward course into the pelvic cavity. The absence of any symptoms that could be attributed to a lesion of the liver, also showed that it had escaped serious injury.

They individually examined the wound with great care. These examinations consisted in the introduction in different directions, of probes and flexible bougies, in order if possible to determine the course of the bullet. With the evidences developed by this personal examination, together with the complete history given them of the shooting of the President, the consulting surgeons proceeded to discuss the

possible course of the bullet and the organs involved. The propriety of making extensive incisions and dissections, so as to explore the fractured ribs and remove as much as might be necessary to reveal the true course of the bullet, was fully considered. It was finally determined, however, that the favorable condition of the President thus far, did not warrant such interference, and further such an operation would seriously complicate the case and diminish the prospects of recovery.

The consulting surgeons issued the following bulletin to-day after the consultation :

JULY 4, 1881.

We held a consultation with the physicians in charge of the President's case at 7:30 A.M. to-day, and approve in every particular of the management and care of the case, and of the course of treatment which has been pursued.

FRANK H. HAMILTON of New York.
D. HAYES AGNEW of Philadelphia.

At the time of the consultation his temperature was 99:4; pulse 104; respiration 19. He suffers considerably from pains in the feet, and cloths saturated in camphorated tincture of opium were applied to them; some vomiting of a clear fluid tinged with bile. Stopped giving nourishment at 10:30 A.M., and gave two teaspoonfuls of lime water with cracked ice. At 1 P.M. it was deemed necessary to give him another hypodermatic injection of one-eighth of a grain of sulphate of morphia. He then received the following prescription: Carbolic acid solution fifteen drops and lime water four ounces; mix and give a tablespoonful every hour.

At 3:30 P.M. The President has slept at intervals, and on waking expressed himself as feeling more rested. Still continues to vomit at intervals of about thirty minutes, without straining or nausea, and only about an ounce of fluid is ejected each time; 4:30 P.M., patient is more restless, and is more indifferent to surroundings; received another eighth of a grain of morphia hypodermatically; 7:45 P.M., (bulletin.): The President is not so comfortable.

He does not suffer so much pain in the feet. The tympanites is again more noticeable; temperature is 101.9; pulse 126; respirations 24.

Telegrams of inquiry and condolence were showered in a perfect avalanche on the White House during the early part of the President's illness. They came from Vice-President Arthur, ex-President Grant, from the officials of the various States of the Union, and indeed from almost every prominent public man in the United States. This interest was not sectional in character. South as well as North, East as well as West, vied with each other in showing their sympathy with our stricken Chief Magistrate. Probably never in the history of the world was there such an outpouring of friendly feeling as was manifested in the case of President Garfield. The Queen of England was among the first to express her sorrow and best wishes for his recovery. This was followed by messages from all the crowned heads of Europe, as well as from many of the officials and public men of the different countries of Europe.

As to the letters received, their name was legion. During the whole time, indeed, of our attendance upon the President the mail received at the White House assumed alarming proportions. We received every morning literally bushels of letters, and many of them were of the most ordinary character. Every crank and vendor of patent medicines in the country seemed to think himself called upon to offer to cure the President. One man gravely suggested that the President's body should be inverted for some hours in order that the bullet might gravitate downwards, and thus aid in its removal. Another sent a drawing of a machine composed of a rubber tube and an air-pump. The rubber tube was to be introduced into the wound until it came in contact with the bullet, then the air-pump was to be attached to it, and by suction the bullet removed. I wish now I had retained some of the most absurd of these missives, but at the time of receiving them we were too

busy to appreciate either their absurdity or comicality.

July 5, 8:30 A.M. The President has passed a comfortable night, and his condition this morning is decidedly more favorable. There has been no vomiting since last evening at 8 P.M., and he has been able to retain the liquid nourishment administered. There is less tympanites and no abdominal tenderness except in the region of the wound. Temperature 100; pulse 114; respirations 24.

The following dispatch was sent by the surgeons in charge to the consulting surgeons:

JULY 5, 9:30 A.M.

After you left the urgent symptoms continued. There was much restlessness, constant vomiting, and by 8 o'clock P.M. the President's condition seemed even more serious than when you saw him. Since then his symptoms have gradually become more favorable. There has been no vomiting or regurgitation of fluid from the stomach since 8 o'clock last evening. The President has slept a good deal during the night, and this morning expresses himself as feeling comparatively comfortable. The spasmodic pains in the lower extremities have entirely disappeared, leaving behind, however, much muscular soreness and tenderness to the touch. There is less tympanites and no abdominal tenderness whatever except in the hepatic region. Since 8 P.M. (July 4) he has taken an ounce and a half of chicken broth every two hours and has retained it all. The wound was dressed antiseptically this morning. Altogether but one-half a grain of morphia has been given hypodermatically during the past twenty-four hours, and it has been found quite sufficient. His pulse, however, still keeps up. At 8:30 A.M. it was 114; temperature 100.5; respirations 24. Seventy-two hours have now elapsed since the wound was received. We can not but feel encouraged this morning, though of course we do not overlook any of the perils that still beset the path towards recovery. The course of treatment agreed upon will be steadily carried out.

D. W. BLISS,
J. J. WOODWARD,
J. K. BARNES,
ROBT. REYBURN.

July 5, 12:30 P.M. The favorable condition of the President continues, and at noon he had a natural sleep. Temperature 101; pulse 110; respirations

24. July 5, 8:30 P.M. Favorable condition unchanged. Temperature 100.9; pulse 106; respirations 24.

As above mentioned, the wound of the President was dressed antiseptically, and this continued to be the case during the entire time of the treatment. The most scrupulous cleanliness of the instruments, and surgical appliances was observed, and also of the antiseptic solutions used for the daily washing out of the wound, and every effort was made to render them as aseptic as possible. The solution used was a freshly made one of carbolic acid in water, varying in strength, sometimes a 1 per cent. and sometimes a 2 or 3 per cent. solution being made. With this a solution of permanganate of potash of the strength of one to three grains to the fluid ounce of water was alternated. The carbolic spray was also invariably used during the dressing of the wound. It must be remembered that the technique of antiseptic, or more properly speaking, aseptic surgery was not so thoroughly appreciated or carried out by operating surgeons in 1881 as it is in 1892.

July 6, 8:30 A.M. The President slept well, and said this morning that he passed the most comfortable night he had had since he had been shot. He feels some desire for solid food, but was only given chicken broth, with white of egg, one ounce every two hours. Temperature 98.9; pulse 98; respirations 23. July 6, 12:30 P.M. Temperature 98.7; pulse 100; respirations 23.

July 6, 8:30 P.M. His condition continues favorable, and he takes more nourishment than yesterday. Temperature 100.6; pulse 104; respirations 23. July 6, 11 P.M. The President continues to take chicken broth with white of an egg one ounce every two hours.

At 9:30 P.M. received one-quarter of a grain of sulphate of morphia, hypodermatically, and is now sleeping quietly, though he occasionally awakes and asks for ice water. A decidedly yellowish hue of the skin

has made its appearance during the past two days, but is scarcely pronounced enough to call it icteroid. He complains of great muscular weakness and of the tenderness of the skin of the feet and ankles.

July 7, 9 A.M. The President slept last night until 8:30 this morning, when he awoke feeling refreshed and free from pain. He retains his nourishment. The wound was dressed antiseptically; very little discharge from the wound. Temperature 98.2; pulse 108; respirations 23.

July 7, 2:30 P.M. The President vomited twice this morning, and complains of acidity of the stomach. Powders containing each fifteen grains of bicarbonate of soda were given him, and the surface of his body thoroughly and frequently sponged off. Temperature 101.4; pulse 108; respirations 24.

July 7, 8 to 11:30 P.M. He asked for the hypodermatic injection at 8 P.M., and slept until 11 P.M. He then awoke suffering very much from pain in his ankles. Some solution of bromid of potassium was sent for, but he fell asleep before it could be administered. Temp. 100.2; pulse 106; respirations 23.

July 8, 8:15 A.M. The President slept well during the night, and awoke at 6:30 A.M., in good spirits. Wound dressed antiseptically at 8:15 A.M. A slight slough separating from edges of wound with laudable pus. Very little inflammation around edges of wound. At 8 A.M. he took five grains of bisulphate of quinia. Temperature 99.2; pulse 96; respirations 23.

July 8, 1 P.M. Temperature 101.4; pulse 106; respirations 24.

Bulletin to consulting surgeons, Drs. Agnew and Hamilton:

July 8, 1 P.M.

The President's condition has not changed materially since our last telegram to you yesterday. During yesterday afternoon he was again troubled with acid eructations, and the administration of nutrients was again suspended for a few hours. One quarter of a grain of sulphate of morphia was given hypodermatically at 8:30 P.M., and was followed

by tranquil sleep; towards midnight, however, he became restless, and complained a good deal of muscular soreness in his feet and ankle joints, so that we were on the point of administering an additional anodyne, when he fell asleep and on awaking was so free from pain that it was not administered. After 1 A.M. he passed the night tranquilly, sleeping composedly much of the time. He at intervals since that time has taken one ounce of albuminized chicken broth, alternating with an ounce of milk to which a teaspoonful of very excellent rum has been added; all this has been retained as well as five grains of bisulphate of quinia taken this morning at 8 A. M. The yellowish hue of the skin mentioned in our last telegram has sensibly diminished. When the antiseptic dressing was renewed this morning, the wound was found to be discharging a small quantity of healthy looking pus. The reaction accompanying the establishment of suppuration is, as might be expected, marked by a slight rise of temperature and pulse as compared with the same corresponding hours of yesterday; this however, we do not regard as unfavorable under the circumstances, and we should not be surprised if it continued during this afternoon and evening, or even for a day or two. July 8, 8 P.M. Temperature 101.3; pulse 108; respirations 24.

(Signed)

D. W. BLISS,
J. J. WOODWARD,
J. K. BARNES,
ROBT. REYBURN.

July 8, 10 P.M. During the afternoon and evening, the milk in one ounce doses was given with one teaspoonful of rum, alternating with albuminized chicken broth, and at 7:30 P.M. his wound was again dressed. He expressed himself as feeling very tired, and a quarter of a grain of sulphate of morphia was given hypodermatically; after this he slept for nearly three hours. The same nourishment was continued during the night, and no nausea or other inconvenience was experienced.

July 9, 3 A.M. Came in and found him complaining of pains in the ankles; found them cold and wrapped them up in warm blankets, giving relief. July 9, 8 A.M. Wound was dressed antiseptically, and a small slough separated from the edges of the wound, with about two drachms of pus. Two ecchymoses showed themselves in the right hypochondrium. He was given at 9 A.M. ten grains of bisulphate

of quinia, and the milk in doses of one and a half ounces with a teaspoonful of rum was steadily given during the day. Temperature 99.4; pulse 100; respirations 24. July 9, 1 P.M. Temperature 101.2; pulse 104; respirations 22. July 9, 7:15 P.M. Temperature 101.9; pulse 108; respirations 24. July 9, 8:15 P.M. Received a quarter of a grain of morphia hypodermatically, and went to sleep in a few minutes.

July 10, 8 A.M. The President passed the most comfortable night he has experienced since he was wounded, sleeping tranquilly and with few breaks. July 10, 8 A.M. Temperature 100; pulse 106; respirations 23. July 10, 1 P.M. Temperature 100.5; pulse 102; respirations 22. July 10, 7 P.M. Temperature 100.9; pulse 108; respirations 24.

The wound was dressed at 8 A.M. and he expressed himself as feeling easy with a desire for further sleep; after the wound was dressed he fell asleep for nearly an hour and his pulse fell to 100. The milk and rum were continued during the day. His condition was favorable until 5 P.M. when he complained of great weariness and required many changes of position. The wound was dressed at 6:30 P.M. and one-quarter of a grain of morphia was given hypodermatically.

Dispatch to the consulting surgeons, Drs. Agnew and Hamilton:

July 10, 1881.

Such slight changes as have taken place in the President's condition since our telegram of yesterday are of a favorable character. About 7 P.M. his bowels were freely moved; shortly afterwards he received a hypodermatic injection of a quarter of a grain of morphia. He slept more naturally during the night than he has done since he was shot, and this morning is taking his nourishment well and appears on the whole better than hitherto. During the last twenty-four hours he has taken altogether fourteen ounces of milk and one ounce of rum. This morning at 10:30 he again received ten grains of bisulphate of quinia. Both yesterday and the day before, the wound was dressed antiseptically twice in the twenty-four hours. This morning it is

discharging less pus than yesterday, but its appearance is healthy.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 11, 8 A.M. Temperature 99.2; pulse 98; respirations 23. July 11, 1 P.M. Temperature 99.8; pulse 106; respirations 24. July 11, 8 P.M. Temperature 102.8; pulse 108; respirations 24.

The President slept well during the early part of the night. From 2 to 5 A.M. was wakeful, but after that time slept well until 8 A.M. Has taken more nourishment and with relish this morning. The heat of the weather at this time was simply dreadful, and the President suffered greatly from it. An effort was made to cool the air of the room by hanging long strips of muslin over light wooden frames, and keeping them wetted with ice water; this proving ineffective was abandoned. Mr. R. S. Jennings of Baltimore, had in operation to-day an apparatus for cooling the air in the President's room which was very successful. Air was drawn in by an exhaust fan through a subterranean chamber, filled with partitions half an inch apart, covered with Turkish towel- ing. The towel- ing was kept saturated from above by the dripping of water holding in solution ice and salt. The apparatus furnished from eighteen to twenty-two thousand cubic feet of air per hour at a temperature of 54 to 56 degrees Fahrenheit. At 11 o'clock this morning the outside temperature was 90 degrees Fahrenheit; at the outlet of the flue from the apparatus below, the temperature was 54 degrees, while at the head of the President's bed twenty feet from the outlet the temperature was 75 degrees. The President complained somewhat of a feeling of oppression in the chest; opening the window, how- ever relieved him. The President was somewhat restless this afternoon, and after 2 P.M. began to be more feverish.

Dispatch to the consulting surgeons, Drs. Agnew and Hamilton:

July 11, 1 P.M., 1881.

During the past twenty-four hours the favorable progress of the President has continued. He has taken and retained twenty-two ounces of milk and one ounce of rum. This morning at 9 A.M. he had a slice of bread softened with milk. At 11:15 A.M. he took fifteen grains of bisulphate of quinia. There has been no irritability of the stomach at any time. Last evening at 7:15 P.M. he received a quarter of a grain of morphia hypodermatically and slept well during the night. The wound was dressed antiseptically yesterday evening and this morning, and continues to discharge a small quantity of healthy pus.

(Signed)

D. W. BLISS,
J. J. WOODWARD,
J. K. BARNES,
ROBT. REYBURN.

July 11, 7 P.M. Received his hypodermatic injection of a quarter of a grain of morphia, and went to sleep almost immediately and slept at intervals during the night. His temperature began to fall early in the night, and profuse sweating took place.

July 12 at 4 A.M. his pulse was 94 and his respirations 21 per minute while he was asleep. July 12, 8 A.M. Temperature 99.6; pulse 96; respirations 22. July 12, 1 P.M. Temperature 100; pulse 108; respirations 23. July 12, 7 P.M. Temperature 102.4; pulse 104; respirations 24.

July 12, 8 A.M. The President is feeling comfortable this morning. The rise in temperature noted in last evening's bulletin recurred, but came on an hour later. Wound was dressed antiseptically, very little secretion from wound. A two-inch decalcified drainage tube was tied into the wound. July 12, 1 P.M. The President is passing a comfortable day, and is much less restless than yesterday. Has more strength and power of movement in his limbs.

The following dispatch was sent to the consulting surgeons, Drs. Agnew and Hamilton, to-day :

July 12, 1881.

During the afternoon yesterday the President's temperature rose to the highest point it has yet attained. It began to fall, however, immediately after he received his evening dose of morphia—one grain of the sulphate hypodermatically, and this morning it corresponds with previous days. About

6 P.M. he had a copious and consistent movement from the bowels. His wound was dressed antiseptically yesterday evening and this morning. He continues to retain all the nourishment prescribed him, and has had twenty-four ounces of milk and one ounce of rum during the past twenty-four hours besides a small quantity of milk toast this morning. At 8:30 P.M. he received ten grains of bisulphate of quinia. His general condition this morning appears to us to be rather better than yesterday morning.

(Signed)

D. W. BLISS,
J. J. WOODWARD,
J. K. BARNES,
ROBT. REYBURN.

July 12, 7 P.M. The President's wound was dressed antiseptically, the drainage tube was removed, thoroughly cleansed, dipped in carbolized oil (1 to 12) and reinserted. The secretion from the wound was much more abundant than in the morning, and was rather serous in character. At 12 P.M. the President received his usual hypodermatic injection of a quarter of a grain of sulphate of morphia, and slept quietly during the greater part of the night, occasionally awaking. At 5 A.M. (July 13) he took four ounces of milk and one teaspoonful of rum.

July 13, 9 A.M. Temperature 98.5; pulse 90; respirations 20. July 13, 1 P.M. Temperature 100.6; pulse 94; respirations 22. July 13, 7 P.M. Temperature 101.6; pulse 100; respirations 24.

July 13, 8:30 A.M. The President is doing well this morning. His gradual progress towards recovery is manifest and thus far without serious complications. He took ten grains of bisulphate of quinia at 8 A.M. He took four ounces of milk and one teaspoonful of rum every two hours during the day, also a slice of milk toast and a little breast of woodcock. The President had less fever this afternoon than either yesterday or the day before. Wound was dressed at 6:15 P.M. Pus flowing freely from it. At 6:30 P.M. had the usual hypodermatic injection of a quarter of a grain of sulphate of morphia.

Dispatch to the consulting surgeons, Drs. Agnew and Hamilton:

July 13, 1 P.M.

The febrile rise yesterday afternoon was less marked and occurred at a later hour than on the previous day, and today for the first time the President's temperature fell to the normal point. The general progress of his symptoms appear more favorable than hitherto. During the last twenty-four hours he has taken thirty-two ounces of milk and one ounce of rum. This morning he had also a slice of milk toast, and chewed the breast of a woodcock, but did not care to swallow the meat. He had last night one-quarter of a grain of sulphate of morphia hypodermatically. In no twenty-four hours during the past week has he received more than a single dose of this quantity, and he slept well during the night. This morning he received ten grains of bisulphate of quinia. (Signed)

D. W. BLISS,
J. J. WOODWARD,
J. K. BARNES,
ROBT. REYBURN.

July 14, 7:30 A.M. The President slept quietly during the greater part of the night, but was awake from 1 to 3 A.M. Wound dressed at 7:45 A.M., free suppuration from the wound, and a new drainage tube was inserted. He had ten grains of bisulphate of quinia at 8:15 A.M. Takes his milk and rum every two hours. He ate a slice of milk toast this morning. After his wound was dressed, about 8:30 A.M., he had a profuse sweat and complained of coldness of the extremities. Bottles of hot water were applied and he was wrapped in hot blankets until reaction took place, which occurred in about one hour and a half.

July 14, 8:30 A.M. Temperature 99.8; pulse 90; respirations 22. July 14, 1 P.M. Temperature 98.5; pulse 94; respirations 22. July 14, pulse 94; temperature 98.5; respirations 22. July 14. The President during the greater part of the day was free from fever, but was sweating quite profusely.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

July 14, 1 P. M.

The President has continued to progress favorably during the last twenty-four hours. The febrile rise yesterday afternoon was again less than on the preceding day. He has taken since our last telegram twenty-nine ounces of milk, and an ounce of rum, as heretofore, beside a small slice of

milk toast this morning, and at noon a small sandwich of scraped raw beef, with two teaspoonfuls of Valentine beef juice, and an ounce of Tokay wine of 1868. The medication has consisted of a single hypodermatic injection of one-quarter of a grain of morphia, given last night, and ten grains of bisulphate of quinia at 8 A.M. to-day. We administered yesterday at 6 P.M. an enema of soap and water which was promptly followed by a copious movement of normal consistence and color.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

The febrile rise this afternoon was less pronounced, and did not cause so much discomfort as yesterday. At 8:15 P.M. three-sixteenths of a grain of sulphate of morphia was given him. He went to sleep very soon and slept profoundly the greater part of the night.

July 15, 8:30 A.M. Temperature 98.5; pulse 90; respirations 18. July 15, 1 P.M. Temperature 98.5; pulse 94; respirations 18. July 15, 7 P.M. Temperature 100.4; pulse 98; respirations 20. This morning the President partook of some juice of rare roast beef on toast, and Valentine meat juice with a glass of Tokay wine. His wound was dressed at 8 A.M. and was suppurating freely; the drainage tube was reinserted.

July 15, 9:30 A.M. three grains of bisulphate of quinia was given, and this dose was repeated at 4 P.M. and at 8 P.M. At 12 M. he received fifteen drops of aromatic sulphuric acid and also at 5 P.M. During the day the President took more solid food. He complains of pains in his feet, but does not sweat as much as yesterday.

The following report was sent to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 15.

The President continues to do well. The afternoon fever is daily less marked. A smaller quantity of milk has been given, and solid food substituted and relished. He has had less rum, and at intervals of several hours has taken some Tokay wine, in all about two ounces and a half of the latter. Last night his hypodermatic injection consisted of three-

sixteenths of a grain of morphia which proved sufficient to secure rest. This morning we have altered the dose of quinia to be taken three times a day.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 15, 7 P.M. The President has continued to do well during the day. The afternoon fever has been slighter than on any other day since the 3rd of July. At 8:15 P.M. he had a hypodermatic injection of one-eighth of a grain of sulphate of morphia. He slept well during the night and awoke in the morning much refreshed.

July 16, 8:30 A.M. The President has passed another good night, and seems to steadily progress towards convalescence. July 16, 8:30 A.M. Temperature 98.4; pulse 94; respirations 18. No bulletin issued at 1 P.M. July 16, 7 P.M. Temperature 100.2; pulse 98; respirations 19.

Bulletin to the consulting surgeons, Dr. Agnew and Hamilton:

JULY 16, 7 P.M.

The President progresses steadily towards convalescence. During the last twenty-four hours he has had but one-eighth of a grain of sulphate of morphia, in a single hypodermic injection at bedtime. He slept well and this morning expresses himself as feeling quite easy. The quinia is continued in three grain doses three times a day. He is taking a still larger proportion of solid food, and with more relish than hitherto. Some old port wine has been substituted for the Tokay, its flavor being preferred by the patient. The febrile rise yesterday was less than on any day since you saw him. Hereafter our daily dispatch to you will be sent after the evening consultation.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 16, 7 P.M. The President has passed a better day than any since he was hurt. At 6:30 P.M. he received one-eighth of a grain of sulphate of morphia hypodermatically, and slept excellently during the night. July 17, 8:30 A.M. Temperature

98.4; pulse 96; respirations 18. July 17, 1 P.M. Temperature 98.5; pulse 90; respirations 18. July 17, 7 P.M. Temperature 100.2; pulse 98; respirations 20. July 17, 8:30 A.M. The President continues to improve; he passed an excellent night, and has a good appetite this morning. He took oatmeal and milk, lamb chops and bacon for breakfast.

Dispatch to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 17, 7 P.M.

Since our dispatch of yesterday the President has done as our hopes then indicated. He has had a single hypodermatic injection of one-eighth of a grain of sulphate of morphia at bedtime, and slept well. Quinia in three grain doses has been continued, as well as the plan of nourishment hitherto reported. His bowels have been kept free by enemata. The wound is dressed with antiseptic precautions twice daily; there is now a free discharge of healthy pus. The afternoon fever both yesterday and to-day has been comparatively slight.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 17, 7 P.M. Our expectations of favorable progress have been fully realized by the manner in which the President has passed the day. He has taken more solid food and with greater relish than hitherto. His afternoon fever which is as slight as that of yesterday came on later. He received his hypodermatic injection of one-eighth of a grain of sulphate of morphia at 8:15 P.M. and went almost immediately to sleep. He slept well until between 4 and 5 A.M. of July 18.

July 18, 7 A.M. The President had a profuse perspiration this morning after 5 A.M., and felt quite tired after his wound was dressed. He ate some steak, and a poached egg, with potatoes and toast this morning. He had a nap from 10 to 11 A.M., and awoke quite refreshed.

July 18, 8:30 A.M. Temperature 98.4; pulse 88; respirations 18. July 18, 1 P.M. Temperature 98.5;

pulse 98; respirations 18. July 18, 7 P.M. Temperature 100.7; pulse 102; respirations 21. July 18, 5 P.M. The President has suffered from nausea to-day, and nourishment was suspended. The wound was dressed at 6 P.M. and pus came freely from it. July 18, 7 P.M. The President had more fever this afternoon.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 18, 7 P.M.

Shortly after our dispatch of yesterday the President received a hypodermatic injection of one-eighth of a grain of sulphate of morphia. He slept well during the night, and this morning had a temperature of 98.4; pulse 88; respirations 18. His day, however, was not quite so comfortable as yesterday. A slight gastric disturbance was noted towards noon, in consequence of which the quantity of nourishment administered was temporarily diminished. This was followed by rather more fever than yesterday, but the difference was not great, and is thought to be merely a temporary fluctuation.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 18, 7 P.M. He received one-eighth of a grain of sulphate of morphia hypodermatically, and went to sleep soon afterwards.

July 19, 8 A.M. The President is sleeping soundly and quietly. He is sweating, though not profusely. This morning he took beef juice and milk with rum and one slice of milk toast. As he did not seem to relish solid food it was deemed best to give him chiefly liquids and in diminished quantities. During the morning he seemed quite bright and cheerful, and had very little fever.

July 19, 8:30 A.M. Temperature 98.5; pulse 90; respirations 18. July 19, 1 P.M. Temperature 98.5; pulse 92; respirations 18. July 19, 7 P.M. Temperature 99.8; pulse 96; respirations 19.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 19, 7 P.M.

Last evening the President received a hypodermatic injec-

tion of one-eighth of a grain of sulphate of morphia, and slept well during the night. He continues to take sulphate of quinia in three grain doses thrice daily, and has enemata when required. As anticipated the increased fever of yesterday proved only temporary, and he has had a better day to-day than on any day since he was injured. The wound looks well, and is discharging healthy pus freely.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 19, 8 P.M. He received his hypodermatic injection of one-eighth of a grain of sulphate of morphia, and slept well during the night. July 20, 8 A.M. The President's wound was dressed, and it showed evidences of granulations.

July 20, 8:30 A.M. Temperature 98.4; pulse 86; respirations 18. July 20, 1 P.M. Temperature 98.4; pulse 88; respirations 18. July 20, 7 P.M. Temperature 99.6; pulse 98; respirations 19.

July 20, 8:30 A.M. The President took some milk toast and codfish for breakfast this morning. During the day took some milk and rum alternately with Valentine beef juice every two hours. He has also had three three grain doses of bisulphate of quinia, and three doses of fifteen drops each of aromatic sulphuric acid. He passed a comfortable day and was quite cheerful, and had scarcely any evidence of fever until about 4 P.M. July 20, 6 P.M. The President's wound was dressed and quite a free discharge of pus came from it.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 20, 7 P.M.

During the past twenty-four hours the President's progress has been uniform and satisfactory. He had a good night, and has expressed himself throughout the day as feeling quite comfortable. The indications reported in our last telegram have continued without change.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

At 8 P.M. he received his hypodermatic injection of one-eighth of a grain of sulphate of morphia, went to sleep at 9 P.M. and slept well during the night. At 8 P.M. he also received three grains of bisulphate of quinia and fifteen drops of aromatic sulphuric acid.

July 21. At 8:20 and 2:40 A. M. he took some milk and rum and afterwards Valentine beef juice. The President had a good night, and expressed himself as feeling excellently this morning. He took stewed chicken and toast for breakfast. July 21, 8:20 A.M. Temperature 98.4; pulse 88; respirations 18.

July 21, 1 P.M. Temperature 98.4; pulse 92; respirations 19. July 21, 7 P.M. Temperature 99.9; pulse 96; respirations 19. July 21. At 10 A.M. he took three grains of bisulphate of quinia and fifteen drops of aromatic sulphuric acid. During the afternoon he seemed quite tired, though he took a fair amount of liquid food. At 6 P.M. his wound was dressed and a small portion of the shirt was discharged from it when it was dressed this morning.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 21, 7 P.M.

Since our telegram of yesterday the President has continued to do well. He passed a comfortable night. This morning a morsel of clothing, about one-quarter of an inch square, came away spontaneously with the pus from the deeper parts of the wound. It proved on examination to consist of cotton fibers with a few woolen fibers adhering. Medication continued without change.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 21, 8 P. M. One-eighth of a grain of sulphate of morphia was given hypodermatically. The President slept well, and took nourishment twice during the night.

July 22, 8 A.M. The President's wound was dressed and a large quantity of pus flowed from the wound, with a small scale of bone and some fragments of

clothing and a small slough. July 22, 8:30 A.M. Temperature 98.4; pulse 88; respirations 17. July 22, 1 P.M. Temperature 98.4; pulse 98; respirations 18. July 22, 7 P.M. Temperature 100.2; pulse 98; respirations 19.

July 22, 8:30 A.M. The President rested well, and took for breakfast milk toast with a little dried beef. During the day he took buttermilk alternately with milk and beef juice.

July 22. During the early part of the day the President seemed as well as usual; but became quite restless and tired towards evening. At 5:30 P.M. he had an enema, and at 6 P.M. the wound was dressed as usual. A free discharge of pus came from the wound, but not so abundantly as in the morning. During the day he took three doses of three grains each of bisulphate of quinia with two doses of elixir of gentian and tincture of chlorid of iron, each consisting of two drachms. He received one-eighth of a grain of morphia hypodermatically at 7:15 P.M. and soon went to sleep.

Bulletin to the consulting surgeons, Drs. Agnew and Hamilton:

JULY 22, 7 P.M.

The President rested well last night, and has been easy during the day. At the morning dressing the wound, which is looking very well, discharged several ounces of healthy pus. A little solid fragment that floated out with the discharge proved to be a thin scale of bone about one-eighth of an inch in length, with a morsel of sloughing fibrous tissue and a number of adhering fibers of cotton and wool. He continues to take and digest a reasonable quantity of nourishment. The evening hypodermatic injection of sulphate of morphia (one-eighth of a grain) and the quinia (three grains thrice daily) have also been continued.

(Signed)

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBT. REYBURN.

July 22, 8:30 P.M. He complained of feeling chilly; this was followed by a febrile rise of temperature which lasted until 10 P.M. (Temperature

101.) During the night he was restless and did not sleep well.

July 23, 7 A.M. The President fell asleep towards morning, and the dressing of the wound was delayed until he awoke. July 23, 7 A.M. Temperature 98.4; pulse 92; respirations 19. July 23, 10 A.M. Temperature 101; pulse 110; respirations 24. July 23, 12 M. Temperature 104; pulse 125; respirations 26. July 23, 7 P.M. Temperature 101.7; pulse 118; respirations 25.

July 23, 10 A.M. The President was more restless last night, but this morning at 7 A.M., while preparations were being made to dress his wound his temperature was found to be normal. At 7:30 A.M. he had a slight rigor, in consequence of which the dressing of his wound was postponed. Reaction followed promptly, and the dressing has just now been completed. July 23, 12 M. He is feverish and quite restless, and has vomited three times this morning a fluid tinged with bile. At the noon consultation to-day on account of the unfavorable change that has taken place in the symptoms presented by the President, it was deemed best to telegraph for the consulting surgeons. This was done accordingly, and Drs. Agnew and Hamilton arrived at 8:15 P.M.

July 23, 2 P.M. He has just fallen asleep. He slept until 3:45 P.M. 4:40 P.M. Again asleep and slept until 5:45 P.M. 6 P.M. He took three ounces of milk and one teaspoonful of rum. At about 12:45 P.M. the President began to perspire and his temperature began to fall gradually, until at 7 P.M. it had fallen to 101.7. There has been a free discharge of pus from the wound during the day.

At 11:30 P.M. President Garfield had another rigor (the fifth he has had since 7:30 P.M. of July 22) and afterwards sweat profusely during the night.

CHAPTER III.

PERIOD FROM JULY 24 TO AUGUST 8, 1881. SEPTIC INFECTION CONTINUES—COUNTER OPENINGS MADE TO DRAIN WOUND AUGUST 8, 1881.

July 24, 8 A.M. The President's skin is drenched with a profuse perspiration. His skin is cool, with a somewhat anxious expression of countenance. An examination of the wound was made by the consulting and attending surgeons, and a small pus sac was found about three inches from the external wound (in a downward direction). After consultation it was deemed advisable to make a counter opening three inches below the wound for the purpose of drainage. The skin was sprayed with sulphuric ether to diminish the sensibility of the parts, and the opening was made by Dr. Agnew assisted by Dr. Hamilton. A large drainage tube was tied in communicating with both openings. The wound was then dressed, and he was given one ounce of Liebig's extract of beef, and afterwards three ounces of milk and one teaspoonful of rum.

July 24, 12 M. The President feels much more comfortable since the operation. His skin is much more natural in hue. He is still sweating profusely but there is no evidence of rigors. He has vomited once slightly this morning, but has taken and retained some nourishment.

July 24, 12 M. Temperature 99.8; pulse 118; respirations 24. July 24, 7 P.M. Temperature 99.2; pulse 104; respirations 23. July 24, 5 P.M.. The President is much more comfortable to-day than yesterday. He has slept a good deal at intervals during the day, and has retained all the beef essence given. To-day Professors Bell and Newcomb came to the

President's room with Mr. Tainter and demonstrated the use of the induction balance for discovering bullets in the human body. Professor Agnew returned to Philadelphia in the 5:40 P.M. train, but Professor Hamilton remained over during the night in Washington. July 24, 6 P.M. The wound was dressed, and thoroughly washed out with a weak solution of carbolic acid (one-fourth of 1 per cent). He received a hypodermatic injection of one-eighth of a grain of sulphate of morphia at 7 P.M., and slept tolerably well during the early part of the night. He vomited once at about 10:30 P.M. He took small quantities of beef juice and milk during the night. At 3:30 A.M. he had a profuse sweat. He was rubbed off with a solution of alum and then with alcohol.

July 25, 8 A.M. The President seems quite cheerful this morning, and takes his liquid food freely and with relish. He passed a comfortable night, and has had no rigor since yesterday. July 25, 8:39 A.M. Temperature 98.4; pulse 96; respirations 18. July 25, 12 M. Temperature 98.4; pulse 106; respirations 20. July 25, 7 P.M. Temperature 101.8; pulse 110; respirations 24. At 12 M. he took six grains of quinia (bisulphate) and at 3:30 P.M. he complained of feeling cold. Bottles of hot water were placed at his feet, and he was well rubbed. He vomited once, and after the vomiting he had a profuse sweat. He was quiet but did not take much nourishment during the day with the exception of beef essence. He had a hypodermatic injection of one-eighth of a grain of morphia at 7 P.M. He slept for an hour or two, and at 11:30 P.M. had another slight rigor. He complained of chilliness which was followed by fever and sweat during the night. Professor Agnew arrived at 12 (midnight). The President was somewhat restless during the night, and the fever which had subsided during the evening rose again about midnight, and continued until 3 A.M. after which it again subsided.

July 26, 8:30 A.M. Temperature 98.4; pulse 102; respirations 18. July 26, 12 M. Temperature 98.4;

pulse 106; respirations 19. July 26, 7 P.M. Temperature 100.7; pulse 104; respirations 22. July 26, 8 A.M. The President is quiet and does not complain of pain.

July 26, 8 A.M. The wound was dressed, and Dr. Agnew enlarged the opening over the rib, and extracted therefrom a fragment of bone, which had been driven in by the bullet, and was lying loose in the inner track of the wound. Some fragments of muscle and connective tissue were also removed. The largest piece of bone removed was about an inch in length. There were also small particles of bone taken out. The wound was well irrigated with the quarter per cent. solution of carbolic acid, and two drainage tubes were fastened in the lower wound, one entering the cavity, and one draining the lower opening of the wound. The President bore the operation remarkably well, and in fact his condition seemed much more comfortable after the dressing and operation than it was before.

July 26, 12 M. He took six grains of bisulphate of quinia. During the afternoon he had several good naps, and took liquid nourishment quite freely. At 3:39 P.M. the President had a slight sweat. 5:30 P.M. He was given six grains of bisulphate of quinia. 11 P.M. The President had his hypodermatic injection of one-quarter of a grain of sulphate of morphia at 7:30 P.M.; after a short time he went to sleep and slept until 11 P.M. when he awoke, and after a little while he went to sleep again, and slept soundly until 5 A.M.

July 27, 7:30 A.M. This morning he took beef essence, and four ounces of koumiss. July 27, 8 A.M. Temperature 98.4; pulse 94; respirations 18. July 27, 12:30 P.M. Temperature 98.4; pulse 90; respirations 18. July 27, 7 P.M. Temperature 98.8; pulse 96; respirations 20.

July 27, 8:30 A.M. The President's wound was dressed and looked well. There were no rigors nor febrile rise of temperature during the day. He took

his liquid nourishment freely and without any apparent disorder of the stomach. He received his hypodermatic injection of one-fourth of a grain of sulphate of morphia at 7:40 P.M. and slept well during the night, sleeping at one time three hours without interruption.

July 28, 8 A.M. The President was very cheerful this morning, and seemed to feel comfortable. July 28, 8 A.M. Temperature 98.4; pulse 92; respirations 18. July 28, 12:30 P.M. Temperature 98.5; pulse 94; respirations 18. July 28, 7 P.M. Temperature 100.5; pulse 104; respirations 20.

Professor Hamilton was present at the morning dressing of the wound. During the morning the patient took bouillon, beef juice, milk, with an egg beaten up in it, and one teaspoonful of rum. At 10:18 A.M. he took six grains of bisulphate of quinia. During the morning the President's room was thoroughly aired and cleaned, and all the carpets and upholstered furniture were removed. He took a good deal of liquid food to-day, and had no febrile rise until 4 P.M. when he complained of feeling a little feverish. The wound was again dressed at 6 P.M. and the drainage tube being found to be obstructed was removed, and a larger tube inserted. At 7:40 P.M. he received a hypodermatic injection of one-eighth of a grain of sulphate of morphia, and went to sleep at 9 P.M. At 10:30 P.M. he complained of a sharp pain over the region of the bladder; this was relieved by hot fomentations and he went to sleep again at 11:30 P.M. At 11:30 P.M. his temperature was 99.8; pulse 98; respirations 19.

July 29, 7 A.M. The President slept well, and awoke feeling refreshed. The wound was dressed at 8:15 A.M. and was found to be in an excellent condition. He is still taking liquid food only, consisting of milk and egg with a little rum alternating with koumiss and beef juice. July 29, 8:30 A.M. Temperature 98.4; pulse 92; respirations 18. July 29, 12:30 P.M. Temperature 98.4; pulse 98; respirations 19.

July 29, 7 P.M. Temperature 100; pulse 98; respirations 20.

July 29, 8:30 A.M. Immediately after the evening dressing yesterday the President's afternoon fever began to subside. He bore the dressing of his wound well, and exhibited very little fatigue after its completion. 7 P.M. The President has been cheerful during the day. His wound was dressed the second time at 1:30 P.M. The febrile rise came on later and was not so marked as yesterday. He received his usual hypodermatic injection of one-eighth of a grain of sulphate of morphia about 8 P.M. and slept well during the night taking liquid nourishment at 1, 3 and 6 A.M.

July 30, 8:30 A.M. The slight febrile rise of yesterday afternoon had subsided by midnight, and this morning his temperature is again normal. July 30, 8:30 A.M. Temperature 98.5; pulse 92; respirations 18. July 30, 1 P.M. Temperature 98.5; pulse 98; respirations 20. July 30, 7 P.M. Temperature 100.2; pulse 104; respirations 20.

July 30, 8:30 A.M. The President slept well until 8:40 A.M. His wound was then dressed, and found to be discharging freely. At 9:10 A.M. he took some rare beefsteak and scraped beef for breakfast, following this with six ounces of koumiss. At 10 A.M. he took six grains of bisulphate of quinia. During the day he received a good share of liquid food, had several naps, and expressed himself as feeling quite comfortable. A head rest elevating the upper portion of his body was placed under the mattress of his bed, by means of which his head and shoulders have been somewhat raised, and he expressed himself as much pleased by the change of position. The afternoon rise of temperature was moderate and did not commence until 5 P.M. Professor Agnew arrived to-day, and was present at the evening dressing along with Professor Hamilton. (Professor Hamilton has remained continuously on duty with the attending surgeons since July 27). A small drainage tube was

passed farther into the cavity of the wound than heretofore, and the wound was thoroughly washed out with the quarter per cent. solution of carbolic acid. He received a hypodermatic injection of one-twelfth of a grain of sulphate of morphia, and went to sleep at 8:15 P.M.

July 31, 8:39 A.M. The President slept well during the night, and expressed a desire for solid food. After his wound was dressed he took a lamb chop for breakfast. Professor Hamilton returned to New York this morning while Professor Agnew remained in Washington. The afternoon fever of yesterday subsided earlier than the night before, and had quite disappeared by 10 P.M.

July 31, 8:30 A.M. Temperature 98.4; pulse 94; respirations 19. July 31, 12:30 P.M. Temperature 98.5; pulse 94; respirations 19. July 31, 7 P.M. Temperature 99; pulse 104; respirations 20.

The President bore the morning dressing of his wound well. He took and retained an ample supply of nourishment to-day, and seems to improve in his general condition. An enema was given him this afternoon. The wound looks well, and the secretion from it is quite abundant. The wound was dressed the second time at 6 P.M. At 7:30 P.M. he received his hypodermatic injection of one-twelfth of a grain of sulphate of morphia, and slept well during the night.

August 1, 8 A.M. The President awoke quite refreshed this morning and said he had spent the best night since his injury. His wound was dressed at 8:35 A.M. and quite a free flow of pus came from it. After the dressing Professor A. G. Bell and Mr. Tainter tried for the second time the induction balance, for the purpose of endeavoring to locate the bullet in the President's body. This was an apparatus composed of a series of induction coils, so arranged that on being brought near a metallic body the electric balance would be disturbed, and a sound produced. Both Professor Bell and Mr. Tainter from these experiments located the ball in a space about

two inches in diameter, somewhat to the right, and four and a half inches below the umbilicus. As will be seen hereafter this localization of the bullet was an error, and aided in confirming the erroneous diagnosis, which had been previously made by the consulting and attending surgeons as to the location of the bullet. The pus from the wound (though it was thoroughly washed out twice, and sometimes three times a day, and allowed free exit by means of drainage tubes) gradually formed a sinus or false passage in a downward direction from the wound. The transverse wound through the body of the first lumbar vertebra, from its irregular and rough character entirely prevented the passage of any probe in that direction; hence from all the means of information at our disposal, we were led to the belief that the bullet was located in the right side of the abdomen below the point of entrance. After the testing of the induction balance the President took some beefsteak, toast and gravy and a cup of coffee. At 11 A.M. he was given six grains of bisulphate of quinia, and this dose was repeated at 4:30 P.M. During the day the President seemed somewhat tired, and took several naps. He was given the usual amount of liquid food including koumiss. He complained during the afternoon that the koumiss had seemed to disagree with his stomach. Food was withheld from him for a short time with the effect of relieving him.

August 1, 8:30 A.M. After the slight rise of temperature yesterday afternoon it became normal early in the evening, and so continued during the greater part of the day. August 1, 8:30 A.M. Temperature 98.4; pulse 94; respirations 18. August 1, 12:30 P.M. Temperature 98.4; pulse 100; respirations 19. August 1, 7 P.M. Temperature 99.5; pulse 104; respirations 20. August 1, 7:45 P.M. He received one-eighth of a grain of sulphate of morphia hypodermatically, and slept well during the night.

August 2, A.M. The President slept well until 8 A.M., when his wound was dressed as usual. A new

soft long catheter (No. 8) was passed into the opening of the eleventh rib, and passed downward into the abdominal cavity between three and one-half and four inches, and allowed to remain. Another drainage tube was put into the external lower wound (the one made by the incision) and both were kept in place by strips of adhesive plaster. Discharge of pus from wound was free.

August 2, 8:30 A.M. Temperature 98.4; pulse 94; respirations 18. August 2, 12:30 P.M. Temperature 98.4; pulse 99; respirations 19. August 3, 7 P.M. Temperature 100; pulse 104; respirations 20.

August 2. The President had an enema at 2:30 P.M. The wound was dressed at 6 P.M. and he complained of darting pains during the evening radiating from wound. The discharge from the wound was quite profuse. He had at 7:45 P.M. one-eighth of a grain of sulphate of morphia hypodermatically, and slept well during the night.

August 3, 8 A.M. The President passed a comfortable night and this morning the long, soft rubber tube was removed from the wound (it seeming to cause irritation), and a short, wide drainage tube was inserted in its place. Dilute solution of permanganate of potash was used to wash out the wound instead of the dilute solution of carbolic acid. The strength of the solution of permanganate used was eight grains to two pints of water at the temperature of 100 F. Professor Agnew (who had been on duty with the attending surgeons since July 30) returned to Philadelphia at 9:30 A.M. At 5:30 A.M. the President took six ounces of koumiss, at 7:30 four ounces of bouillon and two teaspoonfuls of beef juice, and at 9 A.M. six ounces of milk and two teaspoonfuls of rum. He went to sleep at 9:45 A.M. and slept until 10:45 A.M. when he took six grains of bisulphate of quinia, and the same dose at 5:40 P.M. At 11:30 A.M. he breakfasted and took a little steak, toast and potato. He passed a very comfortable day. The discharge from the wound was profuse and laudable in character.

During the afternoon he had scarcely any pain, and his temperature remained normal until the evening, when it was one degree above. During the day he took a good supply of liquid food.

August 3, 8:30 A.M. Temperature 98.4; pulse 96; respirations 18. August 3, 12:39 P.M. Temperature 98.4; pulse 100; respirations 19. August 3, 7 P.M. Temperature 99.4; pulse 102; respirations 19.

He received his hypodermatic injection of one-sixteenth of a grain of sulphate of morphia at 8 P.M. and went to sleep at 9 P.M. He slept well during the night, waking at 3 A.M. for a short time. He then slept until 8 A.M. of August 4. Professor Hamilton arrived last night (August 3) and will remain until Professor Agnew returns. August 4. Wound was dressed at 8 A.M. The drainage tube was removed and a smaller tube inserted. Diet the same as yesterday. 12:30 P.M. He was given six grains of bisulphate of quinia. At 12 M. Professor Hamilton made a careful examination of the President, and found a small point of induration, one and a quarter inches to the left of anterior superior spinous of right ilium, and about the center of a line drawn from one anterior superior spinous process to the other. The President had an enema at 4 P.M. and at 6 P.M. he took six grains of bisulphate of quinia.

August 4, 8:30 A.M. Temperature 98.4; pulse 90; respirations 18. August 4, 7 P.M. Temperature 100.2; pulse 102; respirations 19.

The President passed a good day without drawbacks of any kind. He took his nourishment well, and has shown little fatigue after his dressings, and changes of position. The wound looks well. The President took a fair amount of liquid food during the day, and went to sleep at 9 P.M. and slept well during the night. He received no morphia at bedtime to-night.

August 5, 8:30 A.M. The President slept naturally during the greater part of the night, though he has taken no morphia for the past twenty-four hours.

His improved condition warranted several days ago a diminution in the quantity of morphia administered hypodermatically at bedtime, and it was reduced at first to one-twelfth, and then to one-sixteenth of a grain in the twenty-four hours without any unpleasant results, and finally has been altogether dispensed with. Yesterday and to-day only two bulletins have been issued, in place of three as heretofore. August 5, 8:30 A.M.. Temperature 98.4; pulse 88; respirations 18. August 5, 7 P.M. Temperature 100.4; pulse 102; respirations 19. August 5, 6 A.M. He took seven ounces of koumiss. At 9:10 A.M. seven ounces of milk with two teaspoonfuls of rum. At 11:40 A.M. he breakfasted on toast, beefsteak and potatoes in small quantities. At 9:30 A.M. he was given six grains of bisulphate of quinia. At 12 M. he took four ounces of koumiss. At 1 P.M. he took six ounces of milk and two teaspoonfuls of rum. At 3:10 P.M. he had three and a half ounces of chicken jelly. At 5 P.M. he took beef juice and bouillon, and at 7:30 P.M. he took six ounces of milk and two teaspoonfuls of rum. Wound was dressed at 6 P.M. and the discharge was abundant. No hypodermatic injection of morphia was given this evening. The President did not get to sleep until after 9 P.M. and awoke at 11:15 P.M. for a short time and then slept through the night until 6:30 A.M. August 6.

August 6, 3 A.M. The President took three ounces of Valentine beef juice, and two and a half ounces of bouillon. At 7 A.M. he took six ounces of milk with two teaspoonfuls of rum. 8 A.M. Dressed the wound as usual. The cavity of the wound was measured and found to contain two ounces of fluid. To-day it was deemed best to suspend the administration of the bisulphate of quinia, and to give instead two teaspoonfuls of compound tincture of gentian three times a day. Claret was also directed to be given as a beverage. He took during the morning four ounces of the claret. Breakfast consisted of a small quantity of steak, toast and potatoes.

August 6, 8:30 A.M. Temperature 98.4; pulse 92; respirations 18. August 6, 12:30 P.M. Temperature 98.5; pulse 100; respirations 19.

The President passed a comfortable morning but towards the afternoon he complained very much of exhaustion from the excessive heat. The external temperature was such that it was found impossible to keep the temperature of his room below 90 degrees F. without closing the doors and windows, which was not thought prudent. During the day the President took a good deal of liquid, but scarcely any solid food. Towards the afternoon his febrile symptoms seemed to become more aggravated, and he was greatly exhausted by the evening dressing. No quinia was given to-day, and his tongue seemed to clear off. At 8 P.M. Professor Agnew arrived. At 10 P.M. the President took seven ounces of milk with three teaspoonfuls of rum. He soon afterwards went to sleep, and slept the greater part of the night.

August 7. From 1 to 5 A.M. the President had a slight febrile rise which passed off by 8 A.M. At that hour his temperature was 98.7. At 6 A.M. he took six ounces of koumiss, at 8:15 six ounces of milk, and two teaspoonfuls of rum. At 11 A.M. he breakfasted on a little steak, toast and potatoes. At 11:15 A.M. he had four ounces of koumiss. At 1 P.M. he had seven ounces of milk. At 3:20 P.M. he took four ounces of claret. The President complained so much of the compound tincture of gentian that it was stopped, and six grains of bisulphate of quinia given instead. The President complained to-day of slight chilliness, and of pain in the region of the wound and in the limbs.

August 7, 8:30 A.M. Temperature 98.7; pulse 96; respirations 18. August 7, 12 M. Temperature 100; pulse 104; respirations 20. August 7, 7 P.M. Temperature 101.2; pulse 104; respirations 20.

August 7. The President was fairly comfortable during the day, although his temperature began to rise earlier than yesterday, and rose almost as high.

At the morning dressing it was found that the entrance of wound through the eleventh rib was apparently obstructed by the drainage tube with accumulation of pus in the cavity of the wound. At 6 P.M. the wound was dressed as usual. The drainage tube was temporarily removed, and the President was placed on his right side for the purpose of promoting drainage from the wound, for about an hour during the afternoon and evening. The President passed a quiet night, and slept well without the use of any anodyne. The rise of temperature of the afternoon subsided during the evening and did not recur at any time in the night.

CHAPTER IV.

PERIOD FROM AUGUST 9 TO SEPT. 10, 1881. CONTINU- ANCE OF SEPTIC INFECTION—GRADUAL EXHAUSTION OF THE STRENGTH OF THE PRESIDENT—DEATH OF THE PRESIDENT ON SEPT. 19, 1881, (FROM SECONDARY HEMORRHAGE).

August 8, 6 A.M. He had five ounces of koumiss. At 8 A.M. seven ounces of koumiss. At 8:40 A.M. he took five ounces of claret. August 8, 8:30 A.M. Temperature 98.4; pulse 94; respirations 18. August 8, 12 M. Temperature 100.2; pulse 104; respirations 20. August 8, 7 P.M. Temperature 101.2; pulse 108; respirations 19.

The President's wound was dressed at 8 A.M. and it being evidently necessary to make a more free opening in the wound to facilitate the escape of pus, he was etherized this morning, and the operation performed. Dr. Reyburn administered the ether, and it acted very quickly and pleasantly. The incision was extended downwards and forwards, and a counter-opening was made into the track of the bullet below the margin of the twelfth rib; this was done by Dr. Agnew. Two drainage tubes were then inserted. The President bore the operation well. He was given some claret at 12 M. At 1 P.M. he took seven ounces of koumiss which he vomited soon afterwards. He took no nourishment until 5 P.M. and then only small doses of milk and lime water were given him during the evening until his stomach recovered from the nausea resulting from the etherization. The wound was dressed as usual at 6 P.M.; it looked well, but had a profuse discharge of pus and bloody serum. The President slept well during the

night, but had fever which partially abated towards morning.

August 9, 8:30 A.M. The President has a higher temperature than he has had for a number of days at this hour of the morning. At 8 A.M. his wound was dressed, and it was found that the pus was being freely discharged through the counter opening made yesterday. August 9, 8:30 A.M. Temperature 99.8; pulse 98; respirations 19. August 9, 12:30 P.M. Temperature 99.7; pulse 104; respirations 19. August 9, 7 P.M. Temperature 101.9; pulse 106; respirations 19.

Since yesterday afternoon small quantities of liquid food given at short intervals have been retained, and during the day larger quantities were administered without gastric disturbance. He had an enema at 5 P.M. The wound was dressed at 6 P.M. The track of the new wound was found to be closed evidently causing some irritation. The President slept well (without the use of any anodynes) but sweat a good deal during the night, and complained of weakness this morning (August 10). Professor Agnew left at 2 P.M. August 9.

August 10, 5:30 A.M. He was given five ounces of milk with half an ounce of lime water. At 8 A.M. the wound was dressed, and a profuse discharge of pus came from the new opening, which evidently relieved him very much. His temperature fell to normal this morning. August 10, 8 A.M. Temperature 98.5; pulse 104; respirations 19. August 10, 12:30 P.M. Temperature 98.6; pulse 110; respirations 18. August 10, 7 P.M. Temperature 101; pulse 108; respirations 19.

August 10, 8:15 A.M. He took half an ounce of brandy. At 9 A.M. he took breakfast, a little chicken toast, potatoes and strawberries. At 11:15 A.M. he had half an ounce of brandy. At 12:15 P.M. he had six ounces of milk with half an ounce of lime water. At 3 P.M. he had six ounces of koumiss. At 4:15 P.M. he had half an ounce of brandy. At 5:15 P.M. The

President has passed quite a comfortable day, and had no rise of temperature until the evening. The wound was dressed at 6 P.M. and was much improved in appearance, and with a free discharge from the deeper parts of the wound. He has taken half an ounce of brandy four times during the past twenty-four hours and an adequate supply of liquid food.

August 11. The President slept well during the night only awaking once. At 4:30 A.M. he had six ounces of milk. At 6:30 A.M. he had six ounces of koumiss. At 8:30 A.M. he had three ounces of bouillon, and two teaspoonfuls of meat juice. At 10:40 A.M. he had for breakfast the same as yesterday. The wound drained well, and there was not such an accumulation of pus as usual, in the deeper parts of the wound. Granulations are showing themselves on the edges of the wound. August 11, 8 A.M. Temperature 98.5; pulse 104; respirations 19. August 11, 12:30 P.M. Temperature 98.6; pulse 110; respirations 19. August 11, 7 P.M. Temperature 101.2; pulse 108; respirations 19.

At 12 M. he had six ounces of milk. At 2 P.M. he had four ounces of bouillon, and two teaspoonfuls of meat juice. At 4:10 P.M. he had six ounces of koumiss. During the day he had four doses (of half an ounce each) of brandy, at intervals of four hours. The President had an excellent day until 4 P.M. when the febrile rise took (101.2). On dressing the wound at 6 P.M. the flow of pus not as abundant as usual. After dressing the wound the President seemed to feel relieved, and fell asleep about 6 P.M. Professor Hamilton arrived at 10 P.M.

August 12, 1:15 A.M. he had six ounces of koumiss, and the same at 6 A.M. At 8 A.M. he was given half an ounce of brandy. During the night he was somewhat restless, and awoke at 5:30 A.M. After being sponged off with alcohol he went to sleep again and slept until 7:30 A.M. At 8:40 A.M. he took two ounces of bouillon, and two teaspoonfuls of beef juice. He breakfasted at 10:50 A.M. on a raw beef sandwich,

and milk toast and seemed to enjoy it. No brandy was given at noon at the request of Professor Hamilton. At 1 P.M. he had six ounces of koumiss, and at 3 P.M. he had six ounces of milk. At 5:30 P.M. he had six ounces of koumiss. Dr. Bliss was compelled to go home to-day at 1:30 P.M. as he was suffering from septic poisoning received through a cut in his hand while dressing the wound of the President on August 8.

August 12, 8:30 A.M. Temperature 98.6; pulse 100; respirations 19. August 12, 12:30 P.M. Temperature 99.3; pulse 100; respirations 19. August 12, 7 P.M. Temperature 101.2; pulse 108; respirations 19.

The President has been doing fairly well to-day, though slightly feverish. It was determined to abstain from giving the President any brandy or other stimulants for the term of twenty-four hours. The wound was dressed as usual, and the discharge at both morning and evening dressings was not as abundant as customary. He had the same febrile rise (101.2) that he had last evening.

August 13, 8:30 A.M. The President did not sleep as well as usual during the early part of the night. After midnight, however, his sleep was more refreshing, and only broken at long intervals. This morning his temperature did not fall to the normal point (as it has done for several days past) and remained at 100.8 during the morning dressing. After the morning dressing he improved, and his temperature fell to 99.2. August 13, 8:30 A.M. Temperature 100.8; pulse 104; respirations 19. August 13, 12:30 P.M. Temperature 99.2; pulse 102; respirations 19. August 13, 7 P.M. Temperature 100.7; pulse 104; respirations 19.

August 13, 2 P.M. The fever indicated in the morning bulletin has gradually receded and the President is in good spirits and expresses himself as feeling very comfortable. The day is extremely oppressive, over 90 F. in the shade; but the President's room is kept comparatively comfortable by means of the

cooled air, which is forced into it, the temperature being kept about 80 F. Early this morning at 3 A.M. he awoke and took six ounces of milk; at 6:45 A.M. he had six ounces of koumiss; at 8 A.M. he had three and one-half ounces of bouillon, and two drachms of meat juice. The stimulants which had been suspended during the past twenty-four hours were resumed to-day. The President showed such exhaustion after their suspension that the unanimous opinion of the surgeons was in favor of their resumption. Professor Hamilton left for New York at 10:15 P.M. At 8 A.M. the President was given half an ounce of brandy; at 10:30 A.M. he breakfasted on a little stewed dried beef, toast, potatoes and a little onion. At 11 A.M. he had six ounces of milk. At 1:10 A.M. he had three ounces of chicken jelly, and half an ounce of brandy. At 4 P.M. he had six ounces of milk and at 5 P.M. he had an ounce of brandy and three grains of bisulphate of quinia. At 5:45 P.M. he had four ounces of bouillon, and two drachms of meat juice. The President's wound was dressed as usual this morning and evening, and a free discharge of pus came from it at both dressings.

August 14. The President slept fairly well during the night, but was slightly feverish, though he said that he felt quite comfortable. The morning dressing seemed to tire him, and there was a good deal of irritability of the stomach. At 2:15 A.M. he had six ounces of milk; at 5 A.M. six ounces of koumiss; at 8 A.M. half an ounce of brandy in six ounces of milk, and three grains of bisulphate of quinia. He breakfasted at 10:15 A.M. on a little steak, potatoes, and a few blackberries. At 12 M. he was given three grains of bisulphate of quinia with half an ounce of brandy; soon after this he vomited. His temperature this morning at 8 was one degree less than at the same hour yesterday morning. His temperature at the evening dressing of the wound was about the same as that of last evening.

August 14, 8:30 A.M. Temperature 99.8; pulse

100; respirations 18. August 14, 12:30 P.M. Temperature 99.8; pulse 100; respirations 18. August 14, 7 P.M. Temperature 100.8; pulse 108; respirations 19.

August 14, 12:30 P.M. He was given three drachms of beef juice, which he retained. He then went to sleep until 3 P.M. when he awoke and shortly afterwards vomited. At 5:30 P.M. he again vomited about four ounces of sour liquid tinged with bile. All nourishment was suspended, and he was given a teaspoonful of the following mixture in water every four hours:

R Tincture lavandulæ comp aa j drachm.
 et tincturæ cardamoni comp: . . . aa j drachm.
 Acidi carbolici grs. iv.
 Alcohol: diluti j ss uncias.

Msee.

At 9:45 P.M. he vomited again, and at 9:50 P.M. he was given one drachm of aromatic mixture. At 11:30 P.M. he vomited six ounces of greenish biliary fluid. He complained of pain in the epigastrium, had considerable restlessness with fever. His pulse reached 120 per minute.

August 15, 3 A.M. The President has awakened at intervals of about half an hour, and complains a good deal of the pains and distress in the stomach. He has retained two teaspoonfuls of milk and lime water, which have been given every half hour since 11 P.M. (of August 14). His pulse is still 120 and very weak. After consultation with Drs. Bliss and Woodward, Dr. Reyburn gave the President three-sixteenths of a grain of sulphate of morphia hypodermatically. After receiving the injection he went to sleep in a short time and slept soundly until 7:30 A.M.

August 15, 8:30 A.M. Temperature 100.2; pulse 108; respirations 20. August 15, 12:30 P.M. Temperature 99; pulse 118; respirations 19. August 15, 7:30 P.M. Temperature 99.6; pulse 130; respirations 22.

During the morning the President's stomach was

very irritable, and he was given only three teaspoonfuls of milk and lime water at 7:30 A.M. which was all the nourishment he was able to retain. For the irritability of the stomach he was given twelve powders each containing one-twelfth of a grain of calomel with one grain of subnitrate of bismuth. He took one of these every hour until seven were taken.

The condition of the President at this time excited very grave apprehensions in the minds of the attending surgeons. His stomach could not assimilate food and just as soon as this occurred he rapidly developed symptoms of exhaustion. During the afternoon and evening his pulse went up to 130 per minute, whilst his temperature kept falling. After consultation, alimentation by the rectum was determined on, and there is every reason to believe that our doing so saved the President from rapidly impending death. The following was the formula used, viz: The yolk of one egg, one ounce of bouillon, one and a half ounces of milk, one half ounce of whisky, and ten drops of deodorized tincture of opium. Mix and administer at the temperature of 100 F. as an enema per rectum. The administration of these enemas was highly beneficial to the President, and he showed the restorative and invigorating effect of their use almost immediately. From August 15 until August 18 he was unable to take any food whatever (except three teaspoonfuls of beef essence) and in fact for about one week subsequent to that date he was nourished almost exclusively in the same way. At 10:30 A.M. he had nutritive enema (see formula given above). At 9:15 and at 11 P.M. the vomiting again recurred, and very hot water in teaspoonful doses was given; this seemed to relieve the nausea.

August 16. During the night the President suffered from nausea until 3 A.M. when a nutritive enema was given him, which he retained. After this he went to sleep, and slept until 7:30 A.M. At 8 A.M. the wound was dressed as usual. There was a free

discharge of pus from the wound, and the President was much exhausted by the dressing. Had nutritive enemas at 3:15 A.M., at 8 A.M., at 12 M., at 4 P.M. and at 8 P.M. During the afternoon the President reacted a good deal, and seemed to be much better. At 5:30 P.M. he vomited about three ounces of a greenish brown fluid with but little odor. The wound was dressed at 6 P.M. It seemed rather dry, but there was a fair amount of discharge from it.

August 16, 8:30 A.M. Temperature 98.6; pulse 110; respirations 18. August 16, 12:30 P.M. Temperature 98.3; pulse 114; respirations 18. August 16, 7 P.M. Temperature 98.9; pulse 120; respirations 18.

August 16, 7 P.M. Temperature 98.9; pulse 120; respirations 19.

August 17. At 3 A.M. the President had nutritive enema, and again at 8 A.M. He slept well during the night, and looks better this morning. August 17, 8:30 A.M. Temperature 98.3; pulse 110; respirations 18.

August 17, 12:30 P.M. Temperature 98.7; pulse 112; respirations 18. August 17, 6:30 P.M. Temperature 98.8; pulse 112; respirations 18.

At 10 A.M. he fell asleep, slept soundly and awoke refreshed at 11:15 A.M. He did not vomit during the day, and the nutritive enemas were well retained, and seemed to nourish him sufficiently. Professor Agnew has been here continuously on duty since 11 A.M. of August 14, and as the grave symptoms presented by the President seemed to demand the presence of all the surgeons, Professor Hamilton was sent for and arrived at 10 P.M., August 16. During the afternoon a teaspoonful of beef extract was twice administered by the mouth, and was retained. Small quantities of cold water and cracked ice were also given without causing nausea. At 12:30 P.M. the President was given the nutritive enema; at 12:40 P.M. one drachm of extract of beef; at 1:45 P.M. another drachm of extract of beef; at 5 P.M. a second nutritive enema, and at 11:45 P.M. a third drachm of extract of beef. During the day the President seemed

quite comfortable until about 9 P.M., when he complained of pain and slight swelling of the right parotid gland. The wound was dressed as usual night and morning. The inner track of the wound seems to be closing up, and the eleventh rib at the seat of the fracture is covered with granulations.

August 18. The President slept well almost all the night, and awoke at 6:30 A.M. apparently much refreshed. He was then washed and sponged with alcohol, and his position changed. During the night the swelling of the right parotid gland had increased very rapidly, and the following local application was applied:

R. Iodoformi
 Et balsam Peru ãã drachm j.
 Collodii unciam j.
 Misce.

At 7 A. M. he had nutritive enema, and also at 1:30 P.M. At 9:30 A.M. he had half an ounce of koumiss, and the same at 10 A.M. and at 11 A.M. At 2:30 P.M. he had two ounces of koumiss, and two tablespoonfuls of milk gruel. At 4:30 P.M. he had nutritive enema. At 7 P.M. he was given three tablespoonfuls of milk gruel and at 11:30 P.M. he had nutritive enema.

August 18, 8:30 A.M. Temperature 98.8; pulse 104; respirations 17. August 18, 12:30 P.M. Temperature 98.4; pulse 108; respirations 18. August 18, 6:30 P.M. Temperature 100; pulse 108; respirations 18.

The President asked for and retained several small portions of liquid nourishment during the day and evening. He bore the evening dressing fairly, but complained a good deal of the pain in the parotid gland. Professor Agnew left this evening for Philadelphia.

August 19. The President was somewhat restless and slightly feverish from 10 P.M. last night to 2 A.M. this morning. At that hour he began to perspire, and then fell asleep, and slept until 7:30 A.M. At 8 A.M. the wound was dressed, and the soft catheter

used to wash out the wound was passed along the lower track of the wound twelve and a half inches, and quite a free discharge of pus came from the wound.

At 7 A.M. he had four ounces of koumiss; at 7:30 A.M. nutritive enema; at 8:30 A.M. four ounces of koumiss; at 10:15 A.M. two ounces of milk gruel. At 11:20 A.M. he began to perspire, having had a slight rigor. He was rubbed dry, and wrapped in warm woollen cloths, with heat applied to his extremities. There is a slight swelling of the right side of the face, around the right eye, but the pain and swelling of the right parotid gland has much diminished. There being a tendency to diarrhea one drachm of subcarbonate of bismuth was given to the President at one dose. At 1 P.M. he had nutritive enema; at 3:30 P.M. three ounces of milk gruel; at 4 P.M. six ounces of koumiss; at 6:30 P.M. nutritive enema and at 7:20 P.M. three ounces of milk gruel. At 7:30 P.M. the bowels were moved.

August 19, 8:30 A.M. Temperature 98.4; pulse 106; respirations 17. August 19, 2:30 P.M. Temperature 98; pulse 106; respirations 17. August 19, 2:30 P.M. Temperature 100; pulse 106; respirations 18.

Professor Hamilton left for New York in the 2:10 P.M. train to-day. Professor Agnew came from Philadelphia to Washington to-night (August 19).

August 20. The President slept tolerably well, but wakened several times during the night. He stood the dressing of the wound very well this morning. The President has slightly relaxed; he had two loose passages, one at 1 A.M. and one at 12:15 P.M. At 1:30 A.M. he had nutritive enema; at 3 A.M. three ounces of milk gruel; at 8:30 A.M. five ounces of koumiss; at 10:20 A.M. nutritive enema; at 12:20 P.M. three drachms of beefsteak juice; at 2 P.M. three ounces of milk gruel; at 4 P.M. three ounces of koumiss, and at 6:30 P.M. three ounces of milk gruel. During the day the President took in all nine ounces of milk gruel, and eight ounces of koumiss, by the mouth.

At the morning dressing the wound looked well, and the pus was laudable in character.

After the operation of August 8 the flexible tube used to wash out the wound at each dressing readily followed the track of the ball to the depth of three and a half or four inches. At the dressings, however, a small quantity of pus came, as was believed from the deeper parts of the wound, from the part of the track beyond the above mentioned point. The pus flowed either spontaneously or after gentle pressure had been applied over the anterior surface of the right ilium. This deeper part of the track was not reached by the tube until yesterday morning, when the separation of a small slough permitted the tube to pass downwards and forwards for the distance of twelve and a half inches from the external opening of the last incision.

August 20, 6:30 P.M. The President was somewhat exhausted by the evening dressing, and has a little more fever this evening. To-day the following ointment was ordered for application to the inflamed parotid gland:

R. Unguenti belladonnæ.
Iodoformi.
Balsam: Peruvian.
Miscæ.

The swelling of the right parotid gland appears to be unchanged.

August 20, 8:30 A.M. Temperature 98.4; pulse 98; respirations 18. August 20, 12:30 P.M. Temperature 98.4; pulse 107; respirations 18. August 20, 6:30 P.M. Temperature 100; pulse 110; respirations 19. At 10 P.M. he was given nutritive enema.

August 21. The President awoke more frequently than usual during the night. At 3:40 A.M. he fell asleep, and slept soundly until daybreak. He took liquid nourishment in small quantities during the night. The wound was dressed as usual at 8:20 A.M. The secretion from the outer surface of the wound

was rather scanty, and there was not so much secretion as usual from the deeper track of the wound.

August 21. At 3:30 A.M. he was given four ounces of koumiss; at 4:50 A.M. three ounces of milk gruel; at 7 A.M. nutritive enema; at 7:45 A.M. four ounces of koumiss; at 10:10 A.M. three ounces of koumiss; at 12:45 P.M. four ounces of milk gruel. At 1:30 P.M., in endeavoring to hawk up the secretion from the right parotid gland, which was very tenacious, he brought on an attack of vomiting. At 3:20 P.M. he was given the nutritive enema. At 5:15 P.M. he vomited six ounces of biliary fluid of a greenish yellow color. The President having vomited three times during the afternoon, the administration of food by the mouth was temporarily suspended. The parotid swelling is painless but stationary. August 21, 8:30 A.M. Temperature 98.8; pulse 106; respirations 18. August 21, 12:30 P.M. Temperature 99.4; pulse 108; respirations 18. August 21, 3:30 P.M. Temperature 99.2; pulse 108; respirations 18.

President Garfield was some of the time entirely, and all of the time very largely, sustained by rectal feeding from the 14th of August until his death on September 19. The value of this method of supplying waste in grave disease has never been more strikingly shown than in this instance, because in all probability there was never a patient more closely observed by his medical attendants, and because the quantity and quality of the rectal diet were most carefully regulated, both as to mode and time of administration. During the stage of inflammation of the parotid gland (eight days) this mode of sustenance was entirely relied upon, he being unable to take any food by the mouth and stomach, and only very small quantities of cracked ice and water, which were frequently rejected.

The quantities carefully measured, were prepared at the dispensary of the Surgeon-General by Hospital Steward W. F. Crusor, U. S. A., in accordance with the following formula:

“Beef Extract.—Directions: Infuse a third of a pound of fresh beef, finely minced, in fourteen ounces of cold soft water, to which a few drops (four or five) of muriatic acid and a little salt (from ten to eighteen grains) have been added. After digesting from an hour to an hour and a quarter, strain it through a sieve and wash the residue with five ounces of cold water, pressing it to remove all soluble matter. The mixed liquid will contain the whole of the soluble constituents of the meat (albumen, creatin, etc.), and it may be drunk cold or slightly warmed. The temperature should not be raised above 100 F.; as at the temperature of 113 F., a considerable portion of the albumen, a very important constituent, will be coagulated.”

Two ounces of beef extract, two drachms of beef peptonoids, and five drachms of whisky were given with scrupulous regularity every four hours, day and night. Occasionally five to fifteen drops of deodorized tinct. opii were added as an additional nerve stimulant and anodyne, and also to secure retention of the enema. They were usually retained without causing any discomfort on the part of the patient, and, as a rule, once in twenty-four hours a discharge of healthy feces occurred, generally of such consistence and form as would justify the belief that digestion had taken place in the small intestine. For the first five or six days the yolk of an egg was added to the injections, but in the judgment of the surgeons was the cause of annoying and offensive flatus. This symptom was promptly relieved by discontinuing the egg, and temporarily adding about a drachm of willow charcoal to the enema. Charcoal tablets by the mouth were also occasionally used.

There was a strong desire on the part of the physicians to discontinue the use of stimulants, but on each occasion when the attempt was made the pulse became more frequent and feeble, so that we were forced to resume their use. Later in the history of the case, after the removal to Elberon, alimentation both by the rectum and the mouth was found to be borne without evidence of peristaltic antagonism.

August 22, 8:30 A.M. Temperature 98.4; pulse 104; respirations 18. August 22, 12:30 P.M. Temperature

98.4; pulse 104; respirations 18. August 22, 6:30 P.M. Temperature 100.1; pulse 110; respirations 19.

A feeling of uneasiness prevailed to-day among the medical attendants in consequence of the unfavorable condition of the President. He is greatly troubled by the tenacious mucus which accumulates in the back of the throat, and in the effort to free his mouth and throat he twice brought on attacks of vomiting yesterday. Happily after midnight the President who had been restless, fell into a sound sleep. He slept more quietly during the after part of the night, and has been able to retain liquid nourishment when taken by the mouth, as well as the nutritive enemata. During the day there was no recurrence of the vomiting and nausea. The parotid swelling is not materially smaller but is painless, and there is less of the accumulation of mucus in the mouth and throat. During the morning he took about twelve ounces of milk gruel and koumiss, and at 7 A.M. an enema of beef extract was administered. During the day for the first time was noticed a slight incoherence of speech, immediately after awaking from sleep. This seemed to disappear as soon as the senses became fully under control. The heat of the weather has somewhat moderated to-day, and it was not considered necessary to use the cooling apparatus for the President's room.

August 22, 2:10 P.M. The President has passed a quiet afternoon, and sleeps a good deal of the time. Up to the present time he has taken and retained twenty-four ounces of liquid nourishment consisting of milk porridge and koumiss. He also continued to take at stated intervals small quantities of the same kind of food during the evening without disturbance of the stomach. The wound was dressed as usual, and the process of repair seems to be going on in all parts of the wound exposed to view.

August 23, 8:30 A.M. Temperature 98.4; pulse 100; respirations 18. August 23, 12:30 P.M. Temperature 98.9; pulse 104; respirations 18. August 23, 6:30

P.M. Temperature 99.2; pulse 104; respirations 19.

August 23, 8:30 A.M. The President slept during the greater part of the night but awoke at intervals. He has taken since last night a larger quantity of liquid food by the mouth than in the corresponding hours of any day during the past week. During the night he received two nutrient enemas, and the use of the nutrient enemas was continued at longer intervals during the day. He continued to take liquid food during the afternoon and evening, and had no recurrence of gastric disorder. The parotid swelling remains unchanged, but the mucus which accumulates in the back part of the mouth is less viscid, and now gives but little trouble. This morning in addition to his koumiss and milk porridge, he was given the juice of a steak, which he took with relish. Professor Agnew, who has remained on duty since August 20, returned to Philadelphia to-day, having been relieved by Professor Hamilton. In spite of all our efforts to nourish the President he is emaciating so rapidly that it is distressing to look at him. His weight when he was wounded was 210 pounds, and his weight now is probably not more than 130 or 135 pounds. This emaciation is accompanied by such great exhaustion as to give rise to the most gloomy forebodings on the part of his medical attendants. During the last three or four weeks the President has often expressed the wish to be in his old home; he longed to be back in Ohio, "on the old sod once more; to walk down the streets of Cleveland, meeting and greeting familiar friends."

August 24, 8:30 A.M. Temperature 98.5; pulse 100; respirations 17. August 24, 12:30 P.M. Temperature 99.2; pulse 104; respirations 17. August 24, 6:30 P.M. Temperature 100.7; pulse 108; respirations 19.

August 24 8:30 A.M. The President passed a very good night awakening at longer intervals than during several nights past. He continues to take liquid food by the mouth with more relish, and in such quantity that the nutritive enemata were suspended for the

present. Shortly after the noon bulletin was issued, an incision was made into the swelling on the right side of the President's face for the purpose of relieving the tension of the swollen parotid gland and giving vent to pus, a small quantity of which was evacuated by the operation. The seat of the incision was sprayed with carbolic acid, but no anesthetic was given him, and he bore the operation well. He has not suffered from nausea to-day. 6:30 P.M. His temperature this afternoon is, however, higher than yesterday at the same hour, and his pulse somewhat more frequent.

The President continues to be very anxious to leave the White House. To-day he asked Dr. Bliss if he could be removed by the time cold weather came. Dr. Bliss told him he would be removed as soon as his stomach was all right. "It's all right now," said the President. "I want to get away. If we can't go to Mentor, I want to go down the river on the *Tallapoosa*." (Steamship.) The President slept most of the night, but his sleep was broken and disturbed. Professor Agnew, who had returned to Philadelphia on the 23rd inst., was telegraphed for, and joined in the morning consultation of the 25th.

August 25. This morning the President is taking liquid food in sufficient quantity so that the nutritive enemata have not been renewed. August 25, 8:30 A.M. Temperature 98.5; pulse 106; respirations 18. August 25, 12:30 P.M. Temperature 99.2; pulse 112; respirations 19. August 25, 6:30 P.M. Temperature 99.8; pulse 112; respirations 19.

Many statements having become current to the effect that the condition of the President was greatly influenced by the miasma generated by the marshes which existed south of the White House; the matter was carefully considered by the attending and consulting surgeons this morning, and they issued the following bulletin after the morning dressing of the wound:

AUGUST 25, 9:15 A.M.

The subject of the removal of the President from Washington at the present time was earnestly considered by us last night and again this morning. After mature deliberation the conclusion arrived at by the majority was that it would not now be prudent, although all agree that it will be very desirable at the earliest possible moment at which his condition may warrant it. We are, moreover, unanimously of the opinion that at no time since the injury has the President exhibited any symptoms of malaria.

(Signed)

FRANK H. HAMILTON,
D. HAYES AGNEW,
D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN.

A little more pus came from the incision in the parotid gland to-day, but the swelling of the gland remains stationary. During the past three days the President's demands for his removal to some other locality have been frequent and almost imperative. He is most anxious to go some place, but not to the Soldiers' Home. He will not think of that. He has been very restless over the subject, and his determination to be taken to another place has been the cause of much anxiety in the sick room. Upon that subject alone he has refused to be guided by his physicians and friends. He refuses to pay any attention whatever to statements that it was impossible to take him away from the White House. After he had been told that he could not with safety be removed, he would not be in the least convinced, but would still as earnestly and persistently say that he must get away. Mentor is where he specially wants to go. Next to that he wants to be taken on board the steamer *Tallapoosa* for a cruise upon the salt water. His persistence in this matter may perhaps be explained by the fact that whenever he went upon a sea voyage he was always greatly benefited thereby. At 6:30 p.m. the wound was dressed as usual, and no unfavorable change has been observed in his condition. He has taken by the mouth a sufficient supply of liquid food.

August 26, 8:30 A.M. The President slept most of the night, awakening at intervals of half an hour to an hour. On first awakening there was, as there has been for several nights past, some mental confusion, which disappeared when he was fully aroused, and occasionally he muttered in his sleep. These symptoms have abated during this morning, as on previous days. At present his temperature is slightly above the normal, and his pulse a little more frequent than yesterday morning.

August 26, 8:30 A.M. Temperature 99.1; pulse 108; respirations 17. August 26, 12:30 P.M. Temperature 100; pulse 118; respirations 18. August 26, 6:30 P.M. Temperature 99.9; pulse 116; respirations 18.

After awakening this morning the President's mind seemed perfectly clear, and he conversed rationally with the surgeons about the condition of the inflamed parotid gland. At the morning dressing of the President it was observed that pus from the parotid swelling had found its way spontaneously into the right external auditory meatus, through which it was discharging; some pus was also being discharged through the incision made over the swollen parotid gland, and also into the mouth, having dissected its way along the course of Steno's duct.

His wound looks as well as it has done for some time past. His pulse and temperature are at the present higher than at the corresponding hour for some days past. He continues to take by the mouth the liquid food, and it seems to be assimilated without difficulty, nevertheless we can not but regard his condition as extremely critical.

August 26, 6:30 P.M. The President's condition has not materially changed since the noon bulletin was issued. He occasionally asks for food, and since yesterday forenoon, commencing at 11:30 A.M., the nutritive enemata have again been given at regular intervals, as a means of administering stimulants as

well as nutrients. The President seems drowsy and slept a considerable part of the day.

August 27, 8:30 A.M. The President slept from half an hour to an hour or more during the night. He continues to retain the liquid food given by the mouth, and the stimulating enemata; nevertheless his pulse has become more frequent since midnight, and at 6 A.M. this morning was so flickering and irregular that it was impossible to count it. He is evidently feebler this morning than yesterday.

August 27, 8:30 A.M. Temperature 98.4; pulse 120; respirations 22. August 27, 12:30 P.M. Temperature 99.6; pulse 120; respirations 22. August 27, 6:30 P.M. Temperature 98.9; pulse 114; respirations 22. At the morning dressing no material change was observed in the wound, and the parotid swelling appeared to be in the same condition as yesterday. The temperature which was slightly subnormal in the morning, rose a little over one degree (Fahrenheit) by noon, and during the morning the pulse was somewhat fluctuating.

August 27, 8:30 P.M. There was no improvement in the condition of the President at the time the noon bulletin was issued; during the afternoon, however, his symptoms showed a slight amelioration. His pulse became less frequent, and his temperature a little lower (98.9 F.). The mental disturbance mentioned in yesterday morning's bulletin has disappeared. The parotid swelling has discharged a little pus by the opening spontaneously formed into the ear as well as by the incision made, but it is not perceptibly smaller. The liquid food given by the mouth and the enemata continue to be retained; 10:30 P.M. The President seems more comfortable. This has been a gloomy day at the White House. The surgeons and attendants were on duty all night, and for almost the first time the President expressed himself in terms of discouragement about his own case, and inquired anxiously about his symptoms. His mind is perfectly clear.

August 28, 8:30 A.M. The amelioration in the President's symptoms announced in last evening's bulletin continued during the night, and since midnight some further improvement has taken place. The pulse has progressively diminished in frequency. The stomach has continued to assimilate the liquid nourishment administered, and last evening he asked for and ate a small quantity of milk toast. Stimulating and nutritive enemata continue to be retained. There has been no mental disturbance during the night or this morning.

August 28, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. August 28, 12:30 P.M. Temperature 99.5; pulse 104; respirations 18. August 28, 6:30 P.M. Temperature 99.7; pulse 110; respirations 20.

August 28, 12:30 P.M. At the morning dressing of the President several yellowish points were observed just below the ear over the swollen parotid, and an incision being made about a teaspoonful of pus escaped. There was also some discharge of pus through the two openings (into the ear and the one made by the incision) mentioned in previous bulletins. The wound looks rather more healthy than it has been doing for several days past. Since the morning bulletin there has been a slight rise of temperature though but little increase in the frequency of the pulse.

August 28, 6 P.M. The improvement in the President's condition still continues. He continues to take willingly the liquid food given him, and also retains the stimulants and nutrients given him by enema. His pulse is stronger than it was at the same hour yesterday, and but little rise in temperature has taken place since noon.

August 28. This day (Sunday) was intensely hot, the thermometer ranging over 98 degrees F. during the entire day, and the cooling apparatus was put in operation to the great relief of the suffering President. This day prayers were offered on behalf of

the President in all the churches of Washington City, and indeed in nearly all the churches in the country. During the evening I told him of the prayers so universally being offered in his behalf. With a sad and pathetic smile he answered: "I am glad of it; I have need of them."

August 29, 8:30 A.M. The President's symptoms this morning are as favorable as they were yesterday at the same hour. Last night was spent much more comfortably by the President than the previous one. He was restful and there was none of the hacking cough that had disturbed him the night before. He slept (awakening at intervals) the greater part of the night. At these intervals he took and retained the liquid nourishment administered. His mind continues perfectly clear.

August 29, 8:30 A.M. Temperature 98.5; pulse 100; respirations 17. August 29, 8:30 A.M. Temperature 98.6; pulse 106; respirations 18. August 29, 6:30 P.M. Temperature 100.5; pulse 110; respirations 18.

August 29, 12:30 P.M. At the morning dressing another small incision was made in the lower part of the swelling on the right side of the President's face, which was followed by a free discharge of pus. A similar discharge took place through the other openings. The swelling is perceptibly smaller and looks better. The wound remains in an unchanged condition, and during the dressing this morning the catheter used in injecting and cleansing the wound passed downwards to a depth of twelve inches. There has been little rise of temperature since the morning, but the pulse is more frequent.

August 29, 6:30 P.M. The President has been comparatively comfortable during the day. He has taken the usual amount of nourishment by the mouth, with stimulating enemata at stated periods. His rise of temperature this afternoon is one degree F. less than yesterday at the same hour, and his pulse is less frequent than at noon to-day. The parotid

swelling has been discharging more freely, and is continuing to diminish in size.

Queen Victoria through Minister Lowell sent on Saturday a message to Secretary Blaine saying: "I am most deeply grieved at the sad news of the past few days, and would wish my deep sympathy to be conveyed to Mrs. Garfield."

August 30, 8:30 A.M. Last night was an uneventful and quiet one for the President, as he slept the greater portion of the night. The rise in temperature last night was due no doubt to the accumulation of pus in the swollen parotid, and subsided as soon as it was evacuated.

August 30, 8:30 A.M. Temperature 98.5; pulse 102; respirations 18. August 30, 12:30 P.M. Temperature 98.9; pulse 116; respirations 18. August 30, 6:30 P.M. Temperature 99.5; pulse 109; respirations 18.

August 30, 12:30 P.M. At the morning dressing another small incision was made in the lower part of the swelling on the right side of the President's face, which was followed by a free discharge of pus. A similar discharge took place through the other openings. The wound in the body remains in an unchanged condition. There has been a very slight rise in the temperature since the morning dressing, but the pulse is more frequent. In other respects his condition remains about the same.

August 30, 6:30 P.M. The President has had a fairly comfortable day. The only solid food given him was a little soft milk toast, with occasionally a spoonful of chicken jelly. He took his liquid food as usual with the nutritive enemas. The President complained this afternoon of pain in the parotid gland, which is discharging freely, and is continuing to diminish in size. His temperature this afternoon is a degree (F.) less than it was yesterday at the same time, and his pulse is less frequent than at noon to-day. The pus in the track of the wound in the body is dissecting its way downwards towards the

right iliac fossa and a probe can be easily passed downwards to the extent of twelve inches. This channel was kept free from accumulations of pus by being irrigated with weak solutions of carbolic acid or permanganate of potash twice a day; while doing this the catheter was carefully withdrawn so as to avoid undue distension of the track of the wound.

August 31, 8:30 A.M. The President passed a very tranquil night. The sensitiveness of the parotid gland of which he complained yesterday afternoon abated, and he was without pain from that cause. In addition to the liquid food given him, he received a small piece of steak of which he swallowed the juice.

August 31, 8:30 A.M. Temperature 98.4; pulse 100; respirations 18. August 31, 12:30 P.M. Temperature 98.4; pulse 95; respirations 17. August 31, 6:30 P.M. Temperature 98.6; pulse 109; respirations 18.

August 31, 12:30 P.M. At the morning dressing the parotid gland was found to be discharging freely. It has materially diminished in size, and the openings made in it show evidences of the formation of granulations around their edges.

August 31, 6:30 P.M. The President has passed a better day than he has had for some time past. He has taken his food with increased relish, and the usual afternoon rise of temperature did not occur. At the evening dressing the solution of permanganate used to wash out the parotid abscess found its way to the mouth, which it did not do this morning, showing that an opening into the mouth has spontaneously occurred.

During the past two weeks a number of pustules of acne, many of which suppurated appeared in the axillæ, and later four or five appeared on the trunk of the body; these were about the size of large peas, and were opened as soon as they suppurated. These were evidently due to the septic condition of the President's system. The small carbuncle mentioned in the report of the autopsy upon the body of the President was no doubt due to the same cause. The above

were the only suppurating surfaces, excepting the incisions made into the wound, and four small superficial bedsores formed on the sacrum, which were observed on the body of the President during his illness.

Professor Agnew returned to Philadelphia to-day, and was relieved by Professor Hamilton.

September 1. About 9 P.M. last evening the President became restless and somewhat feverish. His pulse was somewhat irregular and fluctuating, and varied from 108 to 116 per minute. This condition which was unaccompanied by rigors or sweating, had subsided by midnight and after that time he slept fairly well.

September 1, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. September 1, 12:30 P.M. Temperature 98.6; pulse 108; respirations 18. September 1, 6:30 P.M. Temperature 99.4; pulse 108; respirations 18.

September 1, 12:30 P.M. At the morning dressing of the President the abscess of the parotid was found to be discharging freely and continuing to diminish in size. The state of the wound remains the same. His general condition is not materially different from what it was yesterday at the same hour, except that the pulse is somewhat more frequent. This morning in addition to his liquid refreshment he took a little beefsteak (swallowing the juice) and some gruel.

September 1, 6:30 P.M. The condition of the President has not materially changed since the noon bulletin, except that there has been a moderate rise this afternoon amounting to one degree (F). The question of the removal of the President to a more salubrious and cooler location was discussed at the meeting of the surgeons to-day, but on account of the absence of Professor Agnew the final settlement of the question was deferred until his arrival, which will take place the day after tomorrow. The President slept well during the night, and his condition was much more satisfactory than during the previous

night. He waked at intervals, and at such times was given more nourishment than usual. There was but little fever during the night. The condition of the parotid gland and wound remains the same.

September 2, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. September 2, 12:30 P.M. Temperature 98.7; pulse 100; respirations 18. September 2, 6:30 P.M. Temperature 99.2; pulse 104; respirations 18.

Among the many suggestions made respecting the removal of the President, one is for his removal by the Pennsylvania Railroad to Elberon, and the other is for a trip by water on the steamer, *Tallapoosa*.

The mails each day bring hundreds of letters containing all manner of plans for removing the President, and suggestions as to where he should be taken. After the noon examination to-day by Dr. Bliss, General Swaim, Colonel Rockwell, Ensign Hunt and Private Secretary Brown drove down to the Navy Yard to inspect the *Tallapoosa*, and see what quarters and accommodations there would be for the President on board the vessel.

September 2, 6:30 P.M. The President passed a comfortable day, and this evening appears to be better than for some days past. He has taken a larger quantity of nourishment than usual, and manifested greater relish for it. The parotid gland continues to diminish in size. Wound shows no change.

September 3, 8:30 A.M. The President was somewhat more restless than usual during the early part of the night, but slept better after 1 A.M. This morning his general condition does not differ materially from what it was at the same hour yesterday, except that there is a slight increase in the frequency of the pulse. He is a little weaker than yesterday, but otherwise there is no change.

September 3, 8:30 A.M. Temperature 98.6; pulse 104; respirations 18. September 3, 12:30 P.M. Temperature 98.4; pulse 104; respirations 18. September

3, 6:30 P.M. Temperature 99.6; pulse 102; respirations 18.

Professor Agnew arrived this morning. There is a general agreement among the medical attendants that the condition of the President is unfavorably influenced by the excessive heat of the weather, and by the noxious emanations from the Potomac River flats immediately south of the Executive Mansion. The rank vegetation which fertilized by the city sewerage, and stimulated by abundant water and hot sunshine, covers these flats during the summer, is now beginning to decay, and since yesterday morning a faint-malodorous mist has hung over the river on the south side of the Executive Mansion grounds to the Long Bridge. The prevailing winds in Washington are southerly during the summer months, and these winds brought the emanations from the flats (or marshy grounds) directly to the windows of the President's room. The risk incurred in removing the President did not seem to the surgeons to be as great as it would be if he was retained in his present location in the White House. Besides his liquid nourishment the President to-day took a little milk toast, and some of the breast of reed birds. His general condition remains the same as yesterday. After consultation it was unanimously agreed that the sea voyage on the steamer *Tallapoosa* would not be advisable, nor likely to result in any permanent benefit to the President.

September 4, 8:30 A.M. The President vomited once late last evening, and once an hour after midnight. Notwithstanding this disturbance he slept well most of the night, and this morning has taken his food without any nausea. His pulse is a little more frequent, but in other respects his condition is about the same as at this hour yesterday.

September 4, 8:30 A.M. Temperature 98.4; pulse 108; respirations 18. September 4, 12:30 P.M. Temperature 98.4; pulse 106; respirations 18. September 4, 6:30 P.M. Temperature 99; pulse 110; respirations 18.

September 4, 6:30 P.M. The President has passed a comfortable day. He has taken his food with relish, and has had no return of the irritability of stomach mentioned in this morning's bulletin. The parotid swelling is now so much reduced that the contour of the face is restored. The rise of temperature this afternoon has been very slight, but his pulse is more frequent. He seemed more exhausted than usual after the dressings of his wound, and is perceptibly weaker. He is becoming quite impatient in his desire to leave the White House for Elberon. The tenacious mucus which has been discharged in great quantities from the right side of the President's mouth has been to him a great source of annoyance and distress. This was coincident with the inflammation of the parotid gland, and as it will be remembered resulted in the formation of an abscess, which opened spontaneously, through the external auditory canal of the right ear, on August 26, and on August 31 discharged itself into the mouth. During the early stages of the inflammation of the parotid there was such rigidity of the masseter muscle that the jaws were so firmly fixed as to preclude the possibility of opening the mouth sufficiently for satisfactory examination. An interesting fact was observed that the inflammation of the mucous membrane of the mouth seemed to extend by continuity to the mucous membranes of the pharynx, larynx, trachea and bronchia. The physical signs developed the fact that acute bronchial catarrh was the sequel. Hypostatic congestion of the lungs was observed for some weeks before the President was taken to Elberon, more extensive on the right side than on the left, on account of decubitus. On the right side of the body it extended to the sixth rib posteriorly, while on the left side it was comparatively slight.

September 5. The President was restless during the early part of the night, but slept fairly well after midnight. There was no recurrence of the

vomiting in the night nor was there any this morning. His pulse fluctuated during the night a good deal, and he was feverish and restless. In the night he commenced talking about the arrangements for his removal, and although every effort was made to pacify him, he persisted in talking of the matter and arranging the details of his departure. Dr. Bliss and the other surgeons told him that all arrangements were being made as rapidly as possible, and that as soon as they were completed, they would start on their journey. This morning he took beef extract and chicken broth for breakfast.

September 5, 8:30 A.M. Temperature 99.5; pulse 102; respirations 18. September 5, 12:30 P.M. Temperature 99.5; pulse 104; respirations 18. September 5, 6:30 P.M. Temperature 99.8; pulse 108; respirations 18.

The first thing the President asked Dr. Bliss this morning when he went into his room was: "Well, is this the last day in the White House?" Dr. Bliss tried to quiet him, but he said: "No, no, I don't want any more delay." About 2 A.M. this morning the special train which is intended for the conveyance of President Garfield and the party accompanying him to Elberon arrived at the Baltimore & Ohio depot. It will be composed of an anthracite coal burning engine No. 569 (selected on account of its absence from dust), President Roberts' special car, two Eastlake cars and a baggage car. Car No. 33, which is to convey the President, has been thoroughly renovated. The seats were all taken out and a false top was placed a few inches above the roof of the car, in order to give the air an opportunity to circulate between it and the roof, so as to keep the air cool. Wire gauze was fastened on the outside of the car, completely inclosing the parlor for the President, thus keeping it free from dust. The inside was hung with heavy curtains, and Brussels carpet was laid on the floor. The method of removal of the President determined on was to take him from the

White House on a stretcher in a covered wagon to the corner of Sixth Street and Pennsylvania Avenue, where he will be lifted into the car provided for his reception. To make this possible, Chief Engineer Walters had on the ground this morning a force of three hundred men, who at once proceeded to lay a temporary railroad track from the east side of Sixth Street to the main railroad track, a distance of over three hundred yards. In less than two and a half hours the rails were in place, and a train with gravel to ballast it was ready to work. Professor Hamilton preceded the rest of the party, and went to Elberon in advance, so as to have everything ready before the President's arrival. Notice has been given to all conductors and engineers to be on the lookout for the warning of the coming of the Presidential train. Immediately on the receipt of information that the train has left Washington, the trains going south on the Baltimore & Potomac Railroad will be stopped or switched off, until the train containing the President has passed by. It is intended that no noise of passing trains shall disturb the President, and for that reason trains going in opposite directions will wait until the special Presidential train has passed them. It having been decided by the surgeons that the President should be removed to Elberon, situated near Long Branch on the coast of New Jersey, the journey took place to-day. The details as to the precautions taken to secure his safe transit were of the most minute character, and every provision was made to meet such emergencies as might arise; even to the extent of providing places on the road for his removal from the train, during the journey, in case he should show symptoms of exhaustion.

The President was more restless than usual last night being evidently excited by the anticipation of the journey. This morning at 5:30 A.M. his temperature was 99.8; pulse 118; respirations 18.

September 6 at 6 A.M. the President was tenderly lifted by the devoted friends, who had nursed him

through his long and weary illness, and in company with his physicians, he was carried on a stretcher to the outer vestibule of the White House. Twice while being carried he waved his hand in recognition to those of his household he was leaving behind. The bed he had just left had preceded him. He was immediately placed upon it without the least apparent discomfort. The President seemingly enjoyed the proceedings until the car was reached. The hour was fortunately too early for any great congregation of people, yet many who had heard of his intended removal were present on the streets. In perfect silence with men guarding the heads of the horses (which by the way, were not attached until the President was safely in the wagon and were detached the moment the car was reached), we slowly wended our way to the waiting train. Twelve soldiers grasped the wheels of the wagon, as the horses were detached, and rolled it to the car containing the bed, to which the President was then transferred without the slightest disturbance. We left Washington with the President at 6:30 A.M. Owing to the admirable arrangements of the Pennsylvania Railroad Company, and to the ingeniously arranged bed designed by Mr. T. N. Ely for the use of the President, he suffered comparatively little and bore the fatigue of the journey remarkably well. During the journey his temperature and pulse were taken occasionally, and the effect was noted of the varying rates of speed upon the comfort of our patient. The minimum of unpleasant motion seemed to be secured when the train was going at the rate of sixty miles per hour. Through that long hot afternoon no sound of bell or steam whistle was heard either from our own, or from the large number of trains we passed. It was indeed a strange and affecting journey, and as we silently sped along it almost seemed as if we were being transported by some invisible and noiseless force to our destination. At every station we were met by silent multitudes, who with uncovered heads greeted

us, but spoke not a word. The car assigned for the use of the party contained besides the President, Mrs. and Miss Garfield, Mrs. Rockwell and Miss Rockwell, Mrs. Dr. Edson, Professor Agnew, Dr. Bliss, Surgeon-General Barnes, Dr. Woodward, Dr. Reyburn, General Swaim, Colonel Corbin, Colonel Rockwell, Secretary Brown and the two family servants.

The President seemed to enjoy the rapidity of the motion, and when the train was going at its greatest speed of over sixty miles an hour and he was asked if the motion was uncomfortable, he smiled and said: "Let them go." During the last hour of his journey he showed symptoms of exhaustion, which would have prevented his making any longer journey, had such been required to reach his destination.

The train reached Elberon at 1.09 P.M. A temporary railroad track had been laid from the railroad station at Elberon to the Francklyn Cottage which had been generously placed at the disposal of the President by Mr. Francklyn. On reaching the steep grade near the cottage the cars were detached from the engine and pushed by hand to the side entrance of the cottage, and from thence he was carried to the room in which he passed the remaining days of his life.

September 6, 6:30 P.M. During the last hour of the journey the President complained a good deal of fatigue, and after his arrival was feverish and restless. At present his temperature is 101.6; pulse 124; respirations 18.

September 6, 10:30 P.M. The President is sleeping quietly, and his fever which was evidently due to the exhaustion resulting from his journey, is gradually subsiding.

September 7, 9 A.M. The President slept the greater part of the night, awakening, however, as often as it was necessary to give him nourishment, which he took and relished very well. The fever reported in last night's bulletin had subsided by 11 P.M. This morning his temperature is normal, and he appears

to have quite recovered from the fatigue of yesterday's journey. At the morning dressing the parotid abscess was found to be doing well. The visible part of the wound looks somewhat better.

September 7, 9 A.M. Temperature 98.4; pulse 106; respirations 18. September 7, 6 P.M. Temperature 101; pulse 108; respirations 18.

The sight of the ocean seemed to give the President great delight. He said to those about him, "it was refreshing to get where he could look at the sea." The room where he was placed is large and handsomely furnished. When the President was taken into the room he at once noticed that his bed was so situated that he could not look out at the sea. He immediately insisted that a change should be made in the furniture of the room, by which he would have an unobstructed view of the ocean, which was accordingly done.

September 7, 6 P.M. Notwithstanding the exceptional heat of the weather (the thermometer in his bedroom rose to 94 (F) at half past three this afternoon) there was a breeze most of the day, so that the President was comparatively comfortable. He has taken his nourishment regularly, and has slept well at intervals during the day. At 12:15 P.M. his temperature was 98.4; pulse 114; respirations 18.

September 8, 8:30 A.M. The President was restless and wakeful during the early part of the night, but after midnight slept well until morning. His general condition appears to be more encouraging.

September 8, 9:30 P.M. Temperature 98.7; pulse 104; respirations 18. September 8, 12 M. Temperature 98.4; pulse 94; respirations 17. September 8, 6 P.M. Temperature 99.1; pulse 100; respirations 18.

September 8. The President, desiring to diminish the number of his medical attendants, Surgeon-General Barnes, Dr. Woodward and Dr. Robert Reyburn retired from the case on the evening of September 7. Dr. Bliss remains in charge of the case and the services of Professor Agnew and Professor Hamilton

are retained as consulting surgeons. The wear and tear of the attendance upon the President has been perfectly frightful, and was beginning to tell very severely upon all the surgeons who had been on duty in the case. The constant fever of excitement we were under, the continued loss of rest we sustained in our endeavors to do all that we could to save the President's life, had nearly worn us all out. As before mentioned Dr. Bliss never slept a night in his own house from the time the President was shot until his death (except one night when he was compelled to go home on account of an attack of blood-poisoning from a cut received during the dressing of the President's wound). The consulting surgeons were not usually called on for duty at night, unless in case of an emergency; this left the chief burden of the night duty upon Dr. Bliss, and in a less degree upon Dr. Woodward and myself. Dr. Woodward and myself slept alternately one night at the White House and the other night at our homes. The room the surgeons occupied was immediately northeast of the one occupied by the President, and we relieved each other, so that he was never without medical assistance close at hand. During the latter days of the President's illness the weather was extremely sultry and oppressive, and after our broken rest each night, in the morning we could hardly muster energy enough to rise and begin our labors of the day in the President's room. It was the custom of Dr. Bliss to have brought over from his own house early each morning to our room in the White House some excellent coffee. After we had each drunk a couple of cups of this strong black coffee, we were able to commence our day's work. It is probably known to most of the profession that all of the surgeons who were on duty in the case of President Garfield are dead except myself. It is my firm conviction that the lives of all these surgeons were materially shortened by their labors in his behalf. Dr. Woodward died a comparatively young man, and every one who knew Dr.

Bliss will agree with me in the opinion that he would in all probability be living to-day if he had never taken charge of President Garfield. It was perfectly apparent to all the attending surgeons that the President's life could not be prolonged for more than a few days after the date of his trip to Elberon. There was a perfect unity of sentiment among the surgeons in the feeling that it was our duty to remain and minister to the President as long as he desired our services, at the sacrifice of our health, or even of our lives. When, however, it was deemed best to discontinue our services, it was with a feeling of the most grateful relief that we turned our faces homeward.

September 8. After the arrival of the President at Elberon the following bulletin was issued :

September 8, 6 P.M.

The President's temperature was 98.4; pulse 94; respirations 17. At the evening dressing, 5:30 P.M., his temperature was 99.1; pulse 100; respirations 18. He has taken a liberal amount of food (both solid and liquid) with apparent relish. By special request of the President it has been made our duty to say in this public manner, to Surgeon-General J. K. Barnes, Surgeon J. J. Woodward, and Dr. Robert Reyburn that in dispensing temporarily with their services as his medical attendants he was actuated only by a wish to relieve them from a labor and responsibility, which in his improved condition he could no longer impose upon them. Both the President and Mrs. Garfield desire us to express to these gentlemen personally, and in this public manner our high appreciation of the great skill and discretion which they have constantly exercised as associate counsel in the management of his case up to the present time

(Signed)

D. W. BLISS,

FRANK H. HAMILTON.

PRESIDENT GARFIELD'S SOJOURN AT ELBERON.

September 9, 8:30 A.M. During last night the President was restless until after midnight when he fell asleep, and though occasionally awakening for a time, yet he slept a good deal. The conditions of the parotid gland and wound are improving. The enemata and stimulants have been suspended during the past thirty-six hours. On the whole, the past twenty-four hours give evidence of favorable progress.

September 9, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. September 9, 6 P.M. Temperature 98.8; pulse 100; respirations 18.

A change was made to-day in the watchers upon the President; the four now on duty are Dr. Boynton, General Swaim, Colonel Rockwell and Mr. C. O. Rockwell. Two of these will be on duty each alternate night, and the day watch will be divided into periods of two hours each. The absence of the three surgeons who have been relieved from duty in the President's case is much felt by the remaining three surgeons, who are compelled to sit up with their patient each night, and get what chance sleep they can during the early morning or evening. This morning though cloudy and hazy is comparatively cool and refreshing. A gentle breeze is blowing from the sea, and the day is a decided improvement over the first three or four days of the week. The President's cottage has been rendered comfortable by fires made in the grates, so that no inconvenience will be felt by him should the temperature continue to decrease.

September 9, 1:25 P.M. The President is now sleeping quietly. The thermometer at noon registered 75 degrees (F). He expressed a desire to see this morning any of the members of the Cabinet who wished to call upon him.

September 10, 9 A.M. The President slept a good deal during the night awakening at intervals of one-half to one hour. There is a perceptible increase of strength with an improved condition of the digestive apparatus. The tumefaction of the parotid gland has entirely disappeared, and the suppuration from it has greatly diminished. The wound continues to improve, and presents a more healthy appearance. He takes a fair amount of nourishment, and seems to digest it well. The surgeons agreed to allow the members of the Cabinet to visit the President, but to limit their stay to a few minutes. Secretaries Windom and Lincoln are to call this evening.

September 10, 9 A.M. Temperature 99.4; pulse

104; respirations 18. September 10, 12 M. Temperature 98.5; pulse 100; respirations 18. September 10, 6 P.M. Temperature 98.7; pulse 100; respirations 18.

The President's condition on the whole is not as favorable as it was yesterday. In the morning his temperature and pulse were higher but they diminished towards evening.

September 11, 8:30 A.M. Temperature 98.8; pulse 104; respirations 19. September 11, 12 M. Temperature 100; pulse 104; respirations 20. September 11, 6 P.M. Temperature 100.6; pulse 110; respirations 20.

The daily febrile rise occurred later than usual last night, and was prolonged over the greater portion of to-day. This was evidently due to a circumscribed area of lobular inflammation of the lower part of the inferior lobe of the right lung. The portion of the lung inflamed is quite limited in extent and the inflammation seems to be stationary, as it has not progressed during the day. The President's expectoration is more muco-purulent, and is rather scanty. No enemata are now given him, as he takes with relish a sufficient supply of both solid and liquid food. The President is bright and cheerful, and perfectly cognizant of all that is going on around him.

Dr. Bliss took his temperature at about 5 P.M. and found it to be a fraction over 100 (F). Dr. Agnew examined the President and said he thought the figures must be wrong, and requested that another test be made. Dr. Bliss replaced the thermometer, and as he did so the President said with a smile: "The figures are too high for you, are they? You wish to get them lower, if possible, I suppose."

In addition to his other food he has taken during the day three tablespoonfuls of brandy in the shape of milk punch. At the evening dressing quite a large slough of connective was removed from the region of the parotid gland.

September 12, 9 A.M. Temperature 98.4; pulse

100; respirations 18. September 12, 12 M. Temperature 99.2; pulse 106; respirations 18. September 12, 5:30 P.M. Temperature 98.6; pulse 100; respirations 18.

The President slept soundly last night from 10 P.M. to 2 A.M. this morning, when he awoke and took some nourishment, and immediately fell asleep and did not awake until 4 A.M. At that hour he was sponged off, and in the course of a few minutes fell asleep again, and did not awake until 7 A.M. at which time he apparently felt quite refreshed and rested. The suppuration from the parotid gland has almost entirely ceased, the openings from which the pus discharged are rapidly healing. The lobular inflammation of the lower portion of the right lung (broncho-pneumonia) spoken of yesterday seems to be the result of the parotid inflammation extending by continuity along the mucous membrane of the pharynx, larynx, trachea and bronchi. The cough is less today, and the expectoration has materially diminished. The President seems to feel better to-day; he has taken an ample supply of food without discomfort, and has had several refreshing naps. His situation, however, is considered sufficiently grave to cause a postponement by the members of the Cabinet of their proposed trip to the White Mountains. Postmaster-General James goes to New York this morning, but will return this evening.

September 13, 8:30 A.M. Temperature 99.2; pulse 100; respirations 20. September 13, 12 M. Temperature 98.8; pulse 100; respirations 20. September 13, 5:30 P.M. Temperature 98.4; pulse 100; respirations 20.

The President passed a good night, sleeping most of the time. At 10 A.M. this morning the President was lifted from his bed to a reclining chair which he occupied for half an hour. He said: "This is delightful; it is such a change." He was placed in a position commanding a full view of the ocean, and his body raised to an angle of forty-five degrees.

During the morning his pulse was irregular, and varied a good deal, but when he became quiet, settled down to the figures of the morning bulletin. The atmosphere is clear to-day, and the weather is cool and refreshing. The President is expectorating a good deal of muco-purulent material, and in his condition of great weakness he becomes much exhausted in his efforts to clear his throat of this tenacious matter. During these paroxysms of coughing his breathing becomes very rapid, and his pulse much accelerated. General and Mrs. Grant were here to-day, and in the evening General Grant spent some time in conversation with the surgeons, anxiously inquiring concerning the exact condition of the President.

September 14, 8:30 A.M. Temperature 98.4; pulse 100; respirations 19. September 14, 12 M. Temperature 98.8; pulse 104; respirations 20. September 14, 5:30 P.M. Temperature 99.2; pulse 112; respirations 21.

The President passed a quiet night, sleeping comfortably the greater portion of the night. The day is bright and cheerful, and the President is in good spirits. In addition to the usual nourishment given him he ate a little fruit for breakfast. Soon after the morning dressing Secretary Lincoln was admitted to the sick room. He had not seen the President since the afternoon of the day on which he was shot, and was greatly distressed by his emaciated appearance and exhaustion. Drs. Bliss and Hamilton have decided on account of the great weakness of the President not to transfer him to the invalid chair unless he specially requests it. The President said just now, "that yesterday's experience at the window where he could see the green grass, the soldier walking his beat, the men and women in the summer house and walking along the beach, the fishermen at sea, the vessels on the ocean, and the bathers in the surf made him feel for the first time since he was shot that he was himself again."

Five pustules of acne have appeared upon the back of the President, and were opened to-day. This gave him much relief as they were quite an annoyance to him. September 14, 12:30 P.M. At the urgent request of the President he has been transferred from his bed to the reclining chair and is enjoying the scene very much. The weather continues very pleasant and invigorating, the atmosphere is perfectly transparent excepting over the ocean, where there is a beautifully tinted haze prevailing. After he had comfortably settled down in his chair he expressed his sense of gratification, and remarked: "This should have been commenced three weeks ago." He remained in his chair about an hour and a half, and slept a portion of the time. He did not seem specially fatigued by the transfer or change of position though he had a slight febrile rise of temperature during the evening.

September 15, 8:30 A.M. Temperature 98.4; pulse 104; respirations 20. September 15, 12 M. Temperature 98.9; pulse 102; respirations 21. September 15, 5:30 P.M. Temperature 99.2; pulse 104; respirations 21.

The President slept until 3 A.M. when he was wakeful for a period of two hours, during which time his pulse rose to 120 per minute, but without the marked elevation of temperature which has characterized the febrile disturbances hitherto. After this time he slept quietly until morning. He had two rigors during the night. He expectorates a good deal, and is considerably exhausted by his paroxysms of coughing. His voice is weaker this morning, but he persists in talking, and thinks he is improving. He shows as much anxiety to know what the daily bulletins say concerning his condition as the general public does, and comments upon them, and discusses his general condition. Dr. Bliss took the 11 A.M. train for New York to-day, and will return at 5 P.M. and be present at the evening dressing of the wound. This is the only time since the President was shot.

that Dr. Bliss has been absent from his patient for any length of time. Drs. Agnew and Hamilton remained in charge of the President during his absence. Dr. Bliss said on his return: "Mr. President, I have been away for a few hours as you know, but they seemed like an age." He replied, "Doctor, you plainly show the effect of all this care and unrest, and I am glad you were forced to take this temporary relief. Your anxious watching will soon be over."

While the temperature of the President is not high this evening (99.2) yet the increasing frequency of his pulse and respirations, and more than this the excessive exhaustion he displayed, were sure tokens that the end of the weary struggle was near at hand. During the morning he took his liquid food and a small portion of steak. While his mind is usually clear, yet on first awakening from a sound sleep, he wanders a little for a short time.

September 15, 6 P.M. The President has passed the day quietly, sleeping a little, and coughing occasionally, the expectoration being purulent. He was placed on his reclining chair for three-quarters of an hour, and seemed to enjoy it very much.

September 16, 8:30 A.M. Temperature 98.6; pulse 104; respirations 21. September 16, 12 M. Temperature 99.8; pulse 116; respirations 21. September 16, 5:30 P.M. Temperature 98.6; pulse 104; respirations 21.

The President's condition causes a general feeling of despondency. During the past forty-eight hours he has made no favorable progress, and during the last twenty-four hours there has been a perceptible loss of strength. The process of repair in the wound has come to a standstill, and the discharge from it is thin and watery, and is small in quantity. The amount of lung tissue involved is considerably greater than it was forty-eight hours ago, and he is expectorating considerable quantities of purulent material. His attacks of coughing do not recur as frequently as they did a few days ago, but are more

severe and exhausting. The febrile rise during last night was not as high as it has usually been lately, but the pulse was quite frequent, at one time reaching 180 per minute. Three small bed-sores which had been previously healed have again made their appearance owing to the President's debilitated condition. His mind is not so clear to-day, and he shows evidences of hallucinations. A slight febrile rise occurred at 11 A.M. which had entirely subsided by 2 P.M. Nourishment and stimulants were given him freely during the day. Owing to the unfavorable news concerning the condition of the President, Postmaster-General James, Secretaries Hunt and Windom with their wives are now on their way from Boston to Elberon.

September 17, 8:30 A.M. Temperature 99.8; pulse 108; respirations 21. September 17, 12 M. Temperature 102.2; pulse 120; respirations 24. September 17, 5:30 P.M. Temperature 98; pulse 102; respirations 24. Up to midnight last night the condition of the President had not improved. At 11 P.M. his pulse was 130 per minute, and it varied from 116 to 130 during the night. At about 3 A.M. he fell asleep and slept until 6 A.M. When he awoke his pulse had receded to 106, and his temperature to 98 (F). His temperature during the night did not vary much from the normal point. He slept fairly well in the night taking nourishment at proper intervals. At 11:30 A.M. he had a severe chill lasting about half an hour, and his pulse ran up to 137, followed by perspiration. After 12 M. the temperature gradually fell with diminished frequency of pulse and respiration, so that they were nearly normal by 6 P.M. He slept most of the afternoon, and took liquid nourishment. The paroxysms of coughing were less frequent than usual. During a lucid interval last night the President called Dr. Agnew to him and said: "Doctor, am I not critically ill?" "Your condition is critical," was the frank response, "I thought so," rejoined the President. At the time when the President was at-

tacked with the chill, he complained of very severe pain in the anterior mediastinum; this pain recurred at intervals of six or seven hours until the President's death. This pain is now believed to have been due to the rupture of the aneurismal sac developed on the splenic artery, as show by the postmortem.

September 18, 8:30 A.M. Temperature 98; pulse 102; respirations 18. September 18, 11 A.M. Temperature 100; pulse 116; respirations 20. September 18, 5:30 P.M. Temperature 98.4; pulse 102; respirations 20.

There was no perceptible febrile rise in the temperature of the President during the night, the pulse ranging from 102 to 112 per minute. The cough was less troublesome than on previous nights, and the expectoration is unchanged. He was able to take the nourishment and stimulants required, without gastric disturbance, and there was no evidence of mental aberration during the night. This morning his temperature was six-tenths of a degree (F.) below the normal point, and he was immediately sponged with hot alcohol and wrapped in hot blankets. Ene-mata containing defibrinated beef blood and stimulants have been administered to him to bring about reaction.

September 18, 6 P.M. The President though quite weak has passed a very quiet day. There has been no recurrence of chill or mental disturbance during the day. At 9 A.M. a slight febrile rise took place which began to subside at 11 A.M.

September 18. To-day the President called Colonel Rockwell to him and said: "Do you think my name will have a place in human history?" The Colonel answered: "Yes, a grand one, but a grander one in human hearts. You must not talk in that way. You have a great work yet to perform." After a moment's silence he said, sadly and solemnly: "No, my work is done."

September 19, 8 A.M. Temperature 98.8; pulse 106; respirations 22. September 19, 12:30 P.M.

Temperature 98.2; pulse 104; respirations 20. September 19, 6 P.M. Temperature 98.4; pulse 102; respirations 18.

The President's condition continues to be very unfavorable, and the end is evidently approaching fast. Shortly after the issue of last evening's bulletin, he had a chill lasting fifteen minutes. The febrile rise which followed lasted until midnight, during which time his pulse ranged from 112 to 130 per minute. The sweating which followed was quite profuse. The cough which was troublesome during the chill gave him little annoyance during the remainder of the night. At 8:30 A.M. another chill came on, on account of which the dressing of the wound was temporarily postponed. He slept most of the morning, coughing but little and with more ease.

September 19, 11:30 P.M. After the evening bulletin was issued at 5:30 P.M. the condition of the President remained about the same as during the afternoon, the pulse varying from 100 to 106 per minute, and with rather increased force and volume. After taking nourishment he fell into a quiet sleep. About thirty-five minutes before his death, and while he was asleep, his pulse rose to 120.

September 19, at 10 P.M. General Swaim who was watching in the room with the President heard him gasp, and make an effort to speak. He at once arose and came to his bedside. He stood there for a few moments looking at him as he apparently lay asleep. The President opening his eyes saw and recognized him and said: "Well, Swaim," and then immediately afterward, "Oh my! Swaim, what a pain I have right here," putting his hand to his heart. General Swaim leaned over and felt his pulse, and then finding himself unable to count its beats, sent instantly for Dr. Bliss, who was in the next room. It required but a glance to see what was coming. Death was at hand. Dr. Bliss sent immediately for Drs. Agnew and Hamilton, and called Mrs. Garfield, who was in the adjoining room. Within half a minute Mrs.

Garfield entered the sick chamber. Nothing was said but the one question she addressed to Dr. Bliss, "Is there no hope?" "Madame," replied the Doctor gravely, "he is dying."

By this time Mrs. Rockwell and Miss Rockwell, Miss Garfield, Private Secretary Brown, Colonel Rockwell and Dr. Agnew had entered the room. Mr. John Ricard, Mr. H. L. Atchinson and the four attendants were also present. The President was quite unconscious. His eyes were half closed, and the balls of them turned upwards, so that the lines of white showed between the half-opened lids. There was no sound in the sick room except his breathing, which at times was loud and stertorous, and then again could scarcely be heard. It was not many minutes (at 10:35 P.M.) before the life went out so gradually that it was hardly manifest when he was dead. When the limbs had assumed that eternal rigor which only decay can change, Dr. Bliss tried to feel the pulse, and endeavored in vain to hear the heart beats, and then said in a half whisper, "It is over."

CHAPTER V.

CAUSES OF THE DEATH OF PRESIDENT GARFIELD.

It is surprising, considering the large amount of medical literature in existence devoted to the case of President Garfield, to find so many members of our profession having very vague ideas concerning the cause of his death.

The immediate cause of his death was the spontaneous rupture of a traumatic aneurism formed on the splenic artery, probably as the result of the abrasion of the outer coats of this blood vessel by the bullet at the time of the shooting. This was a complication that could neither be foreseen or prevented, nor could it have been relieved by any exertion of surgical or medical skill on the part of his surgeons. The proximate cause of his death (and one that would have inevitably soon terminated his life even had the bursting of the aneurism not taken place) was the profound condition of septic poisoning (septicemia) which existed in the case of the President for a considerable time previous to his death. The initial point of this septic condition probably dates as far back as the period of the first chill (July 23), and though there were apparent symptoms of convalescence at various times, yet the course of this septic infection was practically continuous, and could only result in inevitable death. This brings up the grave and momentous question for consideration viz: Could this septic condition in the President have been prevented by a different method of treatment on the part of his surgeons? It is useless for me to tell how many weary days and wakeful nights I have spent in arguing with myself the various and opposing arguments on either side

of this question. In order to give a calm and unbiased judgment in this matter, let us go back a little and study the course of the missile in the body of the President with the nature of the injury produced by it.

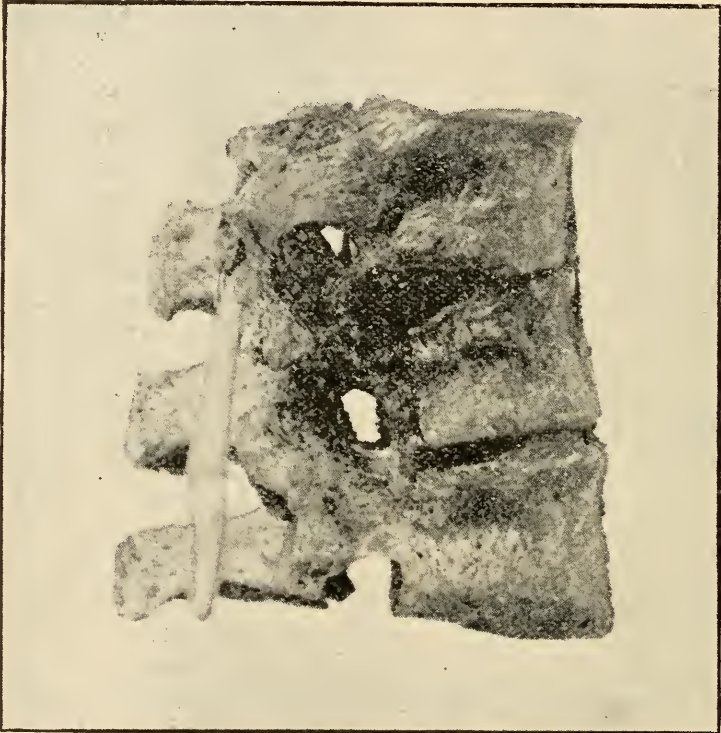


Fig. 1.—Lateral view (right side) of bodies and spinous processes of twelfth dorsal and first and second lumbar vertebræ of President Garfield, showing wound of entrance in body of first lumbar vertebra.

The bullet from the pistol of the assassin entered his body in a horizontal and slightly downward direction immediately over the eleventh rib about three and one-half inches to the right of the vertebral spine. Its course was deflected downward and somewhat to the left, and then it passed to the left, fracturing the eleventh rib; then it fractured the twelfth rib at a point slightly more to the left than the fracture of the eleventh took place, being still more deflected to the left by the rounded and

curved surface of the twelfth rib. It then entered the upper part of the right side of the body of the

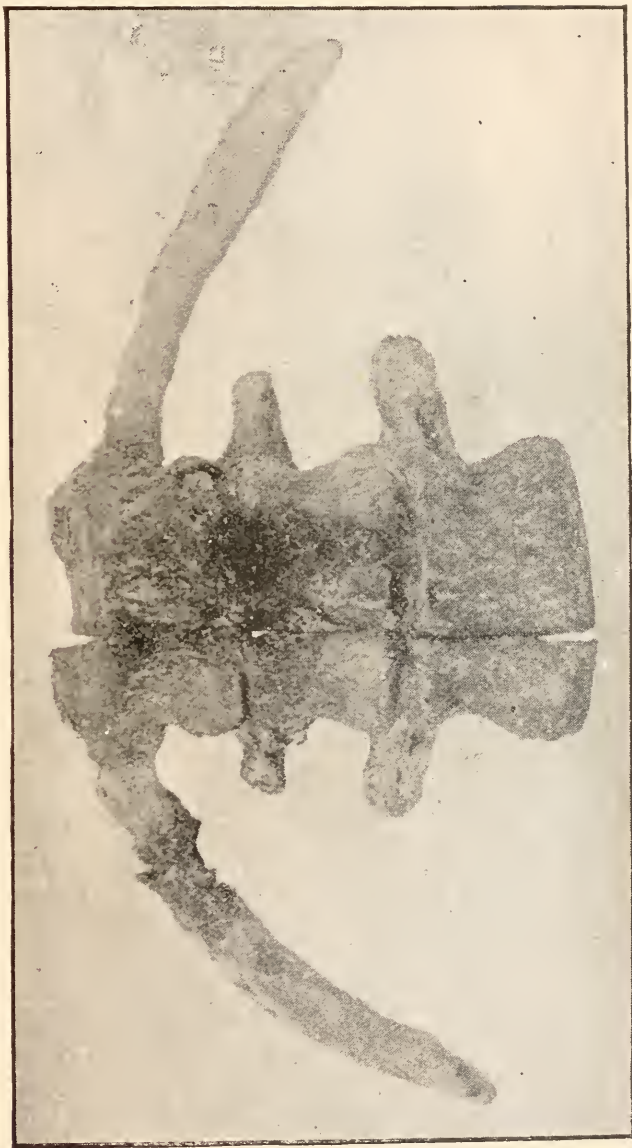


Fig. 2.—Anterior surfaces of twelfth dorsal and first and second lumbar vertebrae of President Garfield, showing fractured twelfth rib and wound of exit.

first lumbar vertebra, involving the inter-vertebral cartilage of the vertebra above (twelfth dorsal) in its course. The bullet emerged from the left side

of the body of the first lumbar vertebra at a lower point down than its point of entrance, and continuing its course to the left with diminishing velocity, passed behind the pancreas to a point just below its lower surface where it was found at the time of the

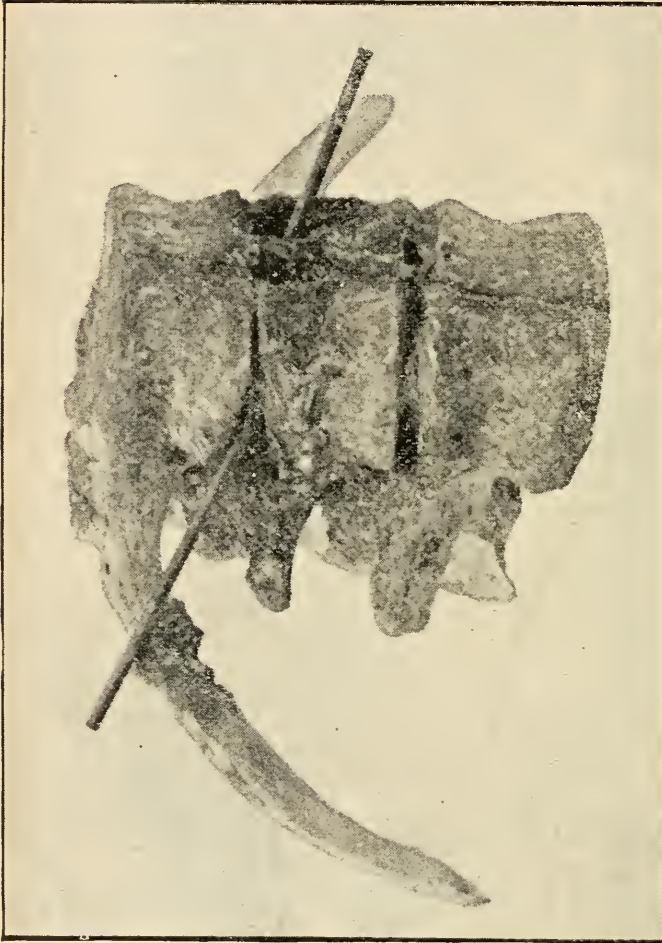


Fig. 3.—Oblique view of twelfth dorsal and first and second lumbar vertebrae of President Garfield, showing wound of entrance and point of exit and curious condition of bodies of first lumbar and twelfth dorsal vertebrae. (The probe has been passed from above and somewhat downwards through wounds of entrance and exit).

postmortem examination. The course of the bullet was wholly without the peritoneal cavity.

As will be seen by the engraving, the course of the missile after it entered the body of the President followed the line of an irregular, nearly S-shaped curve with its convex surface directed to the back of the

President, and passing to the left and gradually downward to its termination. A consideration of this fact will show at once how impossible it was to obtain any information concerning the course of the bullet, or its location in the body by any examination made from the outside of the body. No probe could be passed through the wound in the body of the vertebra, (even if it had been considered advisable to attempt such a proceeding), and the purulent material formed in the wound as the result of bacterial action, gradually by the action of gravity dissected its way downward toward the right iliac fossa, and formed a false channel or sinus, which misled the surgeons, and made them suppose the bullet lay in that part of the body. The carious condition of the body of the first lumbar vertebra found to exist at the time of the postmortem was quite sufficient to account for the septic condition of the President during life. It may here be remarked that the spinal canal of the first lumbar vertebra was not opened by the bullet in its course through the body, nor were there any gross anatomical lesions found in the spinal cord at the time it was examined. It should be remembered, however, that the weapon with which the President was shot was an English revolver of what is commonly called the "bulldog pattern," that was capable of throwing a bullet with great propulsive force; and crushed and splintered the porous cancellated bony tissue in its passage through the body of the vertebra.

The lacerated condition of the cancellated structure of the first lumbar vertebra doubtless contributed largely to the production of the septicemic condition, which was in no wise due to lack of proper or sufficient drainage. More favorable circumstances for its production than existed in the comminuted and softened cancellous tissue, with its open venous sinuses bathed in ichorous pus could scarcely be imagined. Dr. William White ("Review of some of the more Important Surgical

Problems of President Garfield's Case," p. 15, 1882) :
 "The fact that drainage was thorough and complete, and that no portion of the unfavorable symptoms was due to failure in this respect, was fully

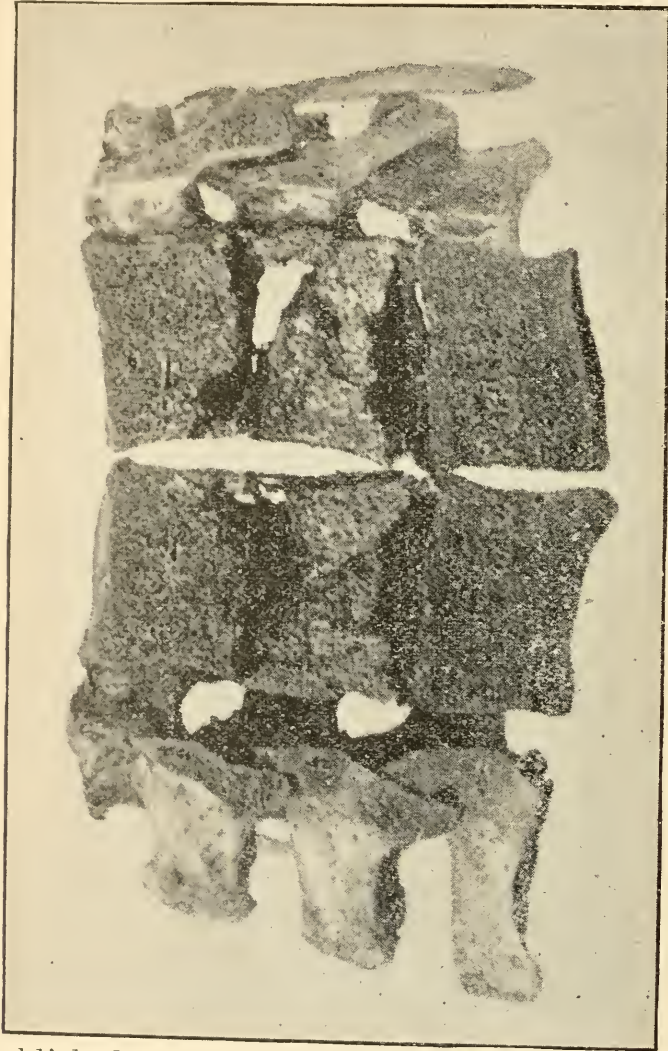


Fig. 4.—Antero posterior section of bodies and spinous processes of twelfth dorsal and first and second lumbar vertebrae of President Garfield, showing carious condition of the bodies of twelfth dorsal and first lumbar vertebrae.

established by the absence of purulent collections, either along the track of the ball or in the passage caused by the burrowing of the pus. There was no time previous to the first operation (July 24) at

which the accumulated pus did not pass freely out of the original wound. Its exit was favored by gravitation after the two incisions had been made, which brought the external openings to a lower level, and enabled them not only to drain the lumbar and iliac regions, but also to carry away any discharge that might have come from the fractured vertebra." Antiseptic treatment was employed throughout the case as carefully as it was possible to do so, and drainage tubes were used until it was evident that their use was unnecessary."

In attempting to reply to the above mentioned questions, much time and labor have been spent in reviewing the various authorities on this subject. The consensus of opinion of all the great masters of the art of surgery is to the effect that these injuries are almost necessarily fatal. Dr. Lidell, justly esteemed as one of our most experienced of American military surgeons, says (*American Journal of the Medical Sciences*, Vol. 48, p. 317): "Leaving out of the calculation such fractures as involve the spinous processes alone, the writer has never seen a case of gunshot fracture get well, and he might add that he has never seen life prolonged for a month after the infliction of that injury."

In Circular No. 6, Surgeon-General's Office, 1865 (issued during our Civil War), it is reported that of 187 recorded cases of gunshot fracture of the vertebræ, all but seven proved fatal; six of these were fractures of the transverse or spinous apophyses. It is well known that fractures of the vertebral processes are not especially fatal injuries, and that a large proportion of them recover. Many of these have been recorded under the general head of fractures of the vertebræ, but evidently have no bearing on the case in question. Dr. Demme, ("Military Surgery," 1868) says: "Extensive injuries or lodgment of balls in vertebræ or in the cord give rise to death or incurable paralysis."

Professor Gross ("Treatise on Military Surgery,"

Vol. 2, p. 82) says: "Gunshot wounds of the vertebræ, with lesion of the spinal cord, are nearly always, if not invariably fatal. Of twenty-two cases of this kind in the English army in the Crimea, not one



Fig. 5.—Oblique view (from the left side) of the twelfth dorsal and first and second lumbar vertebrae of President Garfield.

recovered. Even when the bones alone are affected the danger is generally very imminent, most of the patients thus affected dying in a short time."

Professor P. S. Connor (Ashhurst's International Encyclopedia of Surgery, 1882, Vol. 2, p. 203) says:

“The prognosis of vertebral injuries, aside from the less severe forms of contusions and fractures of the processes, especially the spinous, is very grave, death usually resulting from lesion of the cord, from septic infection, from caries with abscess, or from associated wounds of a viscus or large vessel. As was declared by Ollivier, in gunshot cases the accidents are graver and death generally more rapid than in those otherwise caused. Of the thirty-two cases of vertebral fracture among the British soldiers in the Crimea, all proved fatal except four, which were either fractures of the transverse processes in the neck, or of the spinous processes only, and in the French army, 181 died out of 194 (93.3 per cent.). In the war between Prussia and Hanover in 1866, there were eight cases with six deaths. Of 628 cases tabulated by Otis, 349 or 55.57 per cent. ended in death, the mortality according to locality having been: For the cervical region 70 per cent. (63 out of 90); for the dorsal region 63.5, (87 out of 137); and for the lumbar region, 45.5 per cent. (66 out of 145); but in almost all probably, of the non-fatal cases, the fractures affected only the processes.”

In the *Wien Medicin Wochen*, No. 47, 1881, Professor Max Schuller, after giving a complete history of President Garfield's case concludes as follows: “Taking into consideration all the circumstances connected with this gunshot wound, it is evident that the determination of the direction taken by the missile by probing would have been extremely difficult, and had it been possible, would have been accompanied by great danger to the patient. Among the symptoms which presented themselves immediately after the receipt of the injury, only the pain and disturbance of insensibility in the lower extremities, gave an indication of the true course of the bullet. If, however, the supposition had been entertained that the vertebral column was wounded, the question of the indication for treatment would not have been different from that instituted by the

attending surgeons." He then continues: "To prevent sepsis in gunshot injuries, and to bring to a successful issue such a wound as that received by

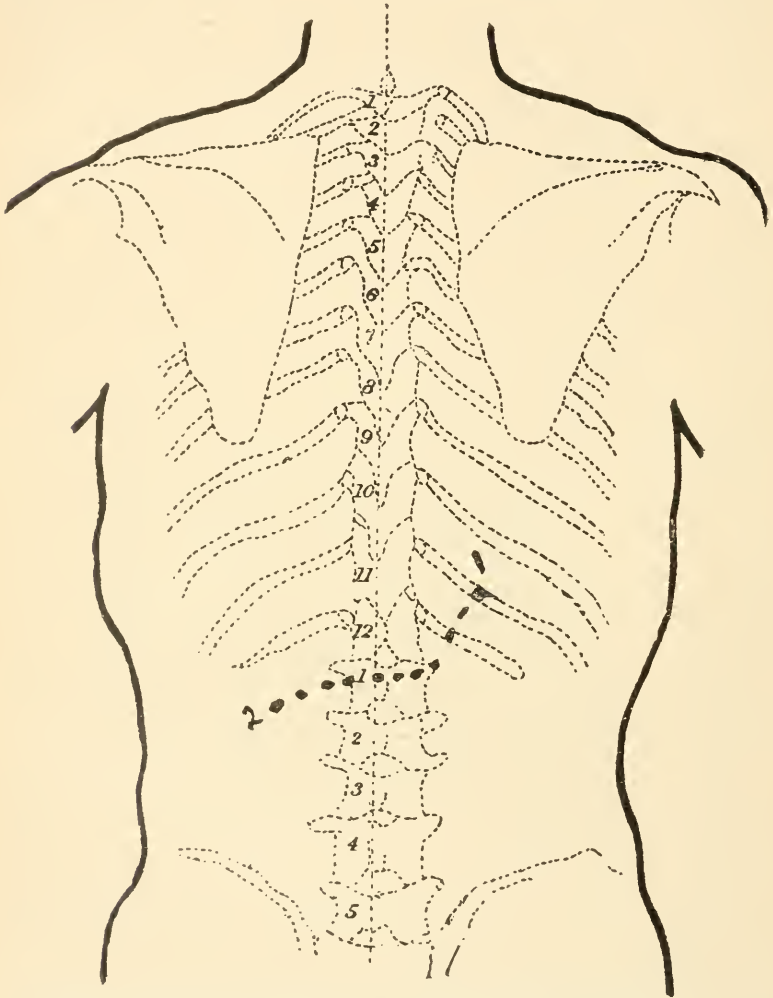


Diagram of posterior surface of body of President Garfield. 1. Point of entrance of bullet. 2. Location of bullet when found during the post-mortem examination.

President Garfield, is one of the most difficult achievements, and can not always be accomplished, even with the most careful and assiduous application of aseptic surgery."



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Dr. John Ashhurst (*North American Review*, December, 1881, p. 594) says: "Looking at the whole case from beginning to end, I do not see that the treatment could have been altered in any way to the advantage of the illustrious patient; nothing was done that should have been omitted, and nothing was left undone that could possibly have been of benefit."

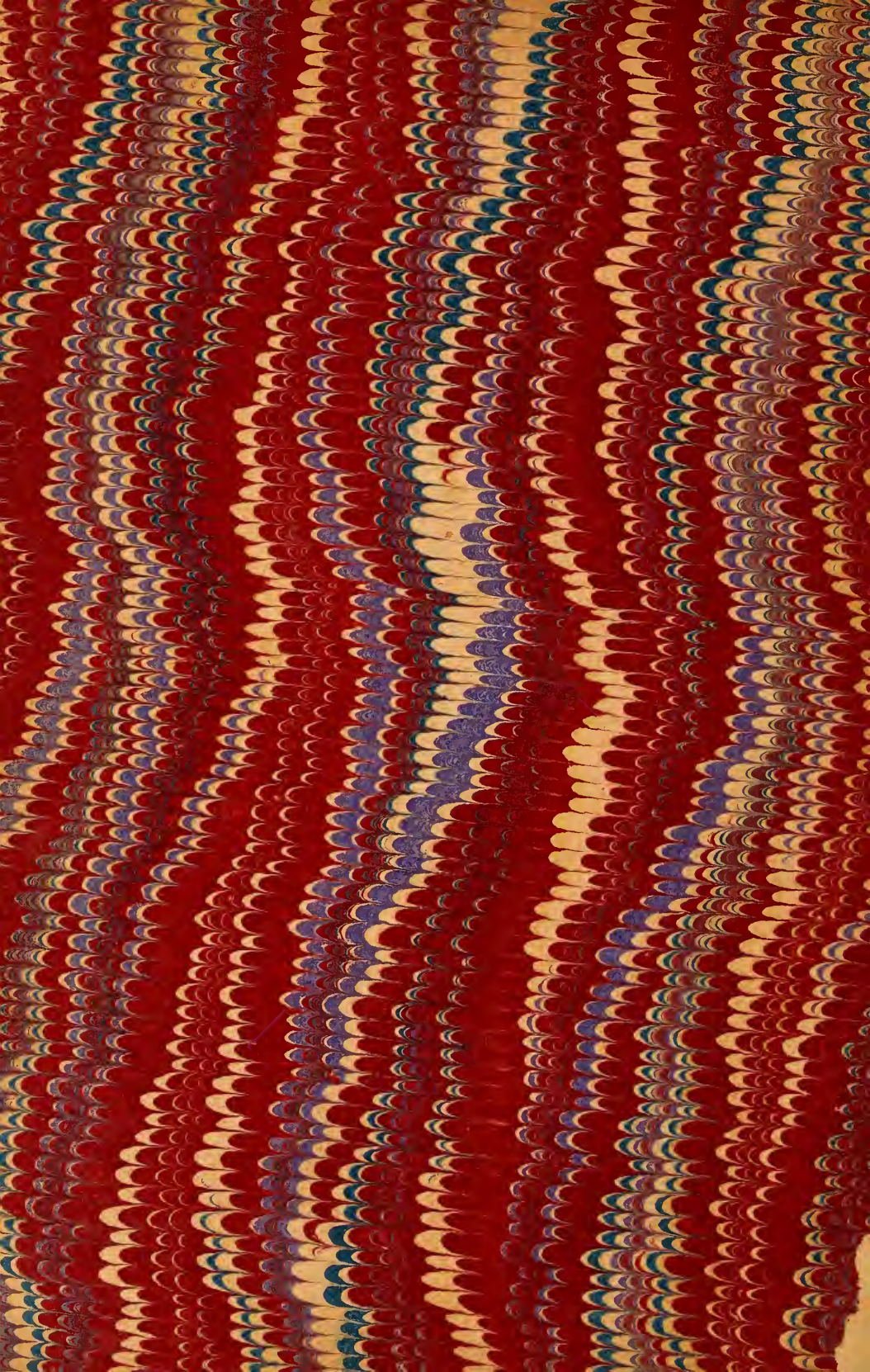
Dr. J. Marion Sims (*North American Review*, December, 1881, p. 300) says: "The President's surgeons did all that men could do, all that the present state of science would permit, and all that could have been done, even if they had first ascertained the course and direction of the ball." "Our whole medical literature does not contain a single well authenticated case of recovery from such a wound." "He had not the least chance of recovery under any circumstances or any treatment."

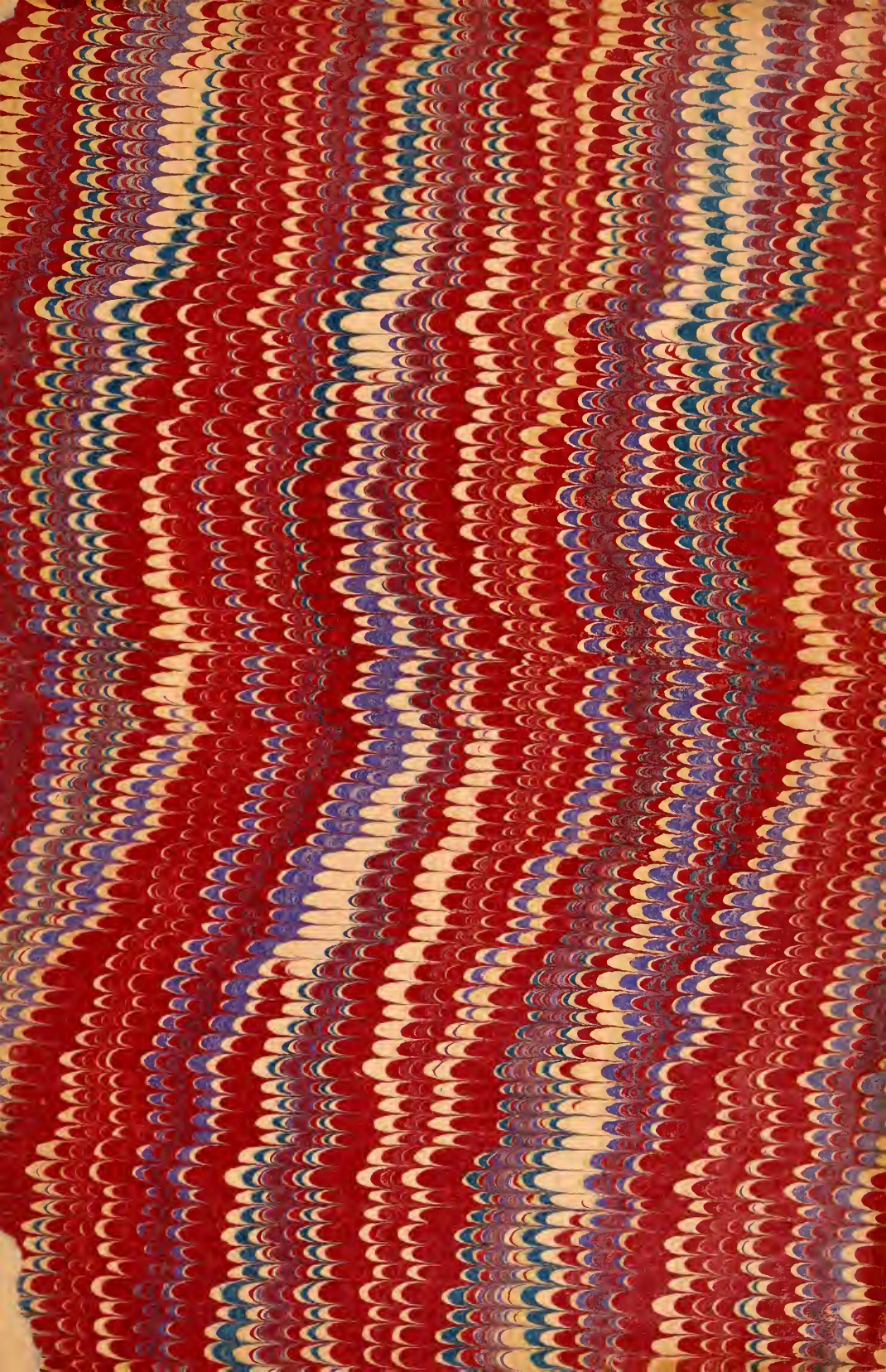
Dr. John T. Hodgen (*Ibid*, p. 610) says: "In reviewing the history of the case of President Garfield, I can find no reason for adverse criticism of any part of the management."

Finally, while it is difficult and perhaps impossible for any one to give a dispassionate judgment, in a case in which we were so deeply and personally interested as in that of the President, yet it is the deliberate conviction of the writer (as it was of all the surgeons in charge of the case) that the President was mortally wounded when he received the fatal shot. Freely confessing our errors of diagnosis, yet we believed that no different course of treatment could have saved his life. I know that I speak only the truth when I say that no wounded man ever received more tender, loving and devoted service, not only from his surgeons but also from the faithful friends who nursed him through his long and weary illness. We gave him this cheerfully and would have sacrificed even our lives for him, if by so doing we could have saved his. We would have done this not only because he was President, but because we

loved the man. Poor patient, uncomplaining, suffering President. How our hearts ached for him; Member of Congress, Senator, President, stricken down at the time when he had received in rapid succession the highest honors his country could bestow, he passed through days, weeks and months of suffering, through the valley of the shadow of death, to that heavenly country, where there is neither sorrow, nor suffering nor pain. We can not understand why such things should be. We can only bow in humble submission to the will of Him who ruleth all things both in heaven and earth, and who doeth all things, well.

THE END.





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